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POS DATA CONSIDERATIONS FOR RETAILERS, MANUFACTURERS AND RESEARCHERS

by
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In my allocated time I would like to offer you some of our (A. C. Nielsen's) thinking regarding the Point-of-Sale/Automated Front End world, briefly discuss some of the work we have been doing and close with some conclusions regarding POS data usage and quality.

When Gene Wycoff first asked if I would be on the program, my opening question, after saying yes, was, "What kind of a group is it?" Gene was good enough to provide a list of attendees at last year's meeting, and after examining that list, I concluded that the audience would be so diverse in nature with representatives from the academic world, government and the private sector that I felt it might be prudent to spend a few moments describing A. C. Nielsen and our interest in UPC data.

Nielsen is a publicly owned company which has been in business since 1923, and in our most recent fiscal year ending August 31st, world-wide revenues totaled some $232 million. This chart provides some idea of the scope of my company. You've all heard of the television ratings which are a service of the Media Research Division, and I am sure most of you have seen the Clinton, Iowa address on the back of a product coupon, the service of the Nielsen Clearing House. Neodata on the far right of the chart is a magazine subscription fulfillment service, and Petroleum Information provides services in all energy areas. Many of these services are available in one or more of the 22 countries we operate in.

The Retail Index Division (at the center of the chart) is the largest world wide Division providing services to manufacturers of consumer packaged goods around the world.

In this country we provide both national and local area services as well as a wide variety of planning services, consumer research and product quality assurance programs.

The major emphasis of the Retail Index Division is the audit derived services. In our store panels we audit almost 8,000 outlets each month ranging from the very largest supermarkets to the local tavern for the Alcoholic Beverage Services.

The term "audit" is explained here: two inventory points, the inventory change plus what was purchased by the store equals consumer sales. Besides the basic arithmetic involved, I think you can see why we at Nielsen are vitally interested in the data generated by an electronic checkout system - the end result of a fully automated store checkout system (that is a store with universal product code scanning capability), or even a store with key entry capacity, is, or at least should be, the same as that we have been generating manually for over 40 years.

The opportunities are great indeed. While we have been gradually automating all phases of data generation, and even data for presentation - we draw over 50,000 charts a month on our own computers - we've never been able to successfully impact on the fundamental source data collection methodology without also affecting the quality of that source data and/or limiting the scope of the data.

The raw data of consumer sales is processed and projected to the universe level. The data package that you see here is turned into information through account-by-account servicing teams.

So much for the Nielsen commercial.

Let me turn for a moment to some general thoughts regarding UPC and Point-of-Sale.

First, for the last two years the Retail Index Division at Nielsen has been making a periodic check on the prevalence of the universal product code on product packages at the retail shelf. This was done at the request of Distribution Codes, Inc. the administrator of the manufacturer code for the Universal Product Code Council. The chart you see on the screen offers an indication of how rapidly the Universal Product Code has appeared on packages. The upper section of the chart traces what happened during 1975 on a selected group of 15 grocery product categories which were assessed on an item-by-item basis. Symbolization as you see almost doubled from the starting percentage of 39% at the start of the year to that at the year end of 68%.

In 1976 we regrouped a bit by dropping those product classes which were at such a high level so as to have become meaningless, and by adding new product groupings in the general merchandise area, primarily health and beauty aids. Although we lowered the base a bit - a new starting point of 55% (reflecting the later addition of the symbol by most health and beauty aid manufacturers)the trend remains impressive. We expect the year to finish with a November reading of around 79%. I think it is safe to say that source marking is here and that implementing a change with such intangible benefits is a marvelous accomplishment for the food industry.

Our estimates of how many fully automated systems have been installed are listed here. The first system in the Marsh Supermarket in Troy, Ohio was installed in July of 1974, and as you see, the numbers have risen impressively in the two and a half years since. The estimate for January 1, 1977 of 100 stores with scanners represents our best guess as of last month. The speed of the installation in the year 1977 is difficult to estimate and this seems to be a good news/bad news situation. The good news is that there are many supermarkets which have gone electronic and can be upgraded to scanning in a relatively easy fashion. The bad news is that there are a large number of unknowns and uncertainties which could act as a brake on the implementation programs. These include the item pricing issue and possible related legislation, and of course, the high cost of equipment.

What's the potential? If you examine the supermarket world, it seems apparent that the number of potential customers for an automated front end system are difficult to define. Progressive Grocer estimates just over 7,000 stores doing better than $77,000 per week (a $4 million store on an annual basis), and if you refine that figure to those stores doing at least $100,000, which has been given as the minimum size by many people in the industry, I would estimate that around 4,000 stores at best would be candidates for a system. Byron Allumbaugh, of Ralph's, has indicated that $150,000 per week is the minimum size, and that of course, would reduce the number of potential customers for a fully automated system to around 1,000 stores. I realize I am playing games with numbers; I guess the point is that this surface has only been scratched, but how deeply we will be able to scratch it remains a vital question.

Let's talk a little bit about the data generated by UPC, or better, the potential of POS data. As I mentioned before, we audit almost 8,000 stores of all sizes each month; and the percentages being what they are, several fully automated stores have been included in the various and sundry panels we operate, some stores for better than a year. We have been working with some of the retailers trying to get some feel for the quality of the data. Comparisons of manually audited sales and that generated by the front end systems have been heartening in some cases and discouraging in others. Please bear in mind that all raw data collected in a store in a Nielsen sample panel must be projected to a universe total and, therefore, whatever differences or bias exist in a single store could be magnified many, many times in the end product.

I should also comment that in making those comparisons we have accepted the manually audited figures without challenge. While there is no doubt that this may be a questionable assumption, the consistency of the comparisons plus our proven ability to develop a store-by-store data base that has served our clients accurately for many years has given us the necessary confidence to proceed. But please understand that we do recognize our own shortcomings and limitations; and at this point, our conclusions are strictly tentative and indicative only.

Here are some two-month comparisons made in a store. This store, by the way, is placing symbols on the package for those items which have not yet become symbolized. The figure on the screen represents the ratio of consumer sales generated by an automated checkout system to those computed by a manual audit. The percentages are remarkably consistent and certainly offer some encouragement.

A logical question that goes with this chart is, "Why are the automated front end numbers consistently low?" The answer is a difficult one to pinpoint precisely but there seem to be three distinct possibilities. (A) Shrink - whether that be theft or breakage. (B) Scanner difficulty or symbol failure - in other words a mechanical inability to read the symbol for whatever reason. (C) Poor checkout discipline - either because of a symbol that won't read on a first pass, the pace of a busy Saturday morning or even repetitive sales of a product, a checker elects to punch in a price rather than make additional scanning attempts. But again, the product class comparisons do offer some encouragement.

Beneath the overall total for a category, these ratios by specific product offer some less exciting results. Here is the leading brand in one of the product classes listed on the preceding chart. This brand is marketed in three sizes, only two of which are carried by the store, and in three different types for a total of nine different stockkeeping situations, only six of which are available in this store. While the brand total is an excellent 96%, the more finite the break by type and size, the more variance that appears in comparing the manually generated information and that from the electronic checkout.

Here's another market leader in one of the categories shown earlier. This brand is marketed with four sizes and only comes in one type. The brand total is somewhat lower at 89%. Except for size number 3, the comparisons are favorable indeed. The ratio for the third size is something we haven't entirely figured out yet. We do know that the Nielsen audit data indicated the presence of a special pack during the period - a unique container - but this did not show up as a separate stockkeeping unit on the automated front end printout.

The preceding three charts are only a very small bite out of a massive ongoing study. We view the availability of automated checkout data as a golden opportunity but because of the differences which do exist, quite obviously we are and must proceed cautiously. We are working with deliberate speed to satisfy ourselves that the electronic generated information is what we hope it is and what it should be.

One additional thought regarding the data itself. Our experience thus far has taught us that in almost all cases the electronic front end data is most readily available on a weekly basis, which again would appear to be good news/bad news. For any one of a thousand reasons products move off the shelf at an inconsistent rate and, therefore, the analysis of more frequently reported data - weekly, in this case - may be more difficult than thought earlier. An evaluation of a marketing program cannot always be hurried and sufficient time is an important, better essential, element in the evaluative process. Visualize your own decision making process at any point along the bottom trend line which is the weekly information. Also consider the high risks involved in a go or no go decision at every point along that line. If the sales rate drops sharply, do we kill a program? And what if it rises sharply? Does one week make a trend?

Let me summarize briefly some of my conclusions regarding UPC data.

First, for the retailer, one of the key considerations will be strong checkout disciplines. When the scanner goes in, it is essential that every effort be made to obtain data based on as many products being scanned every time as physically possible. UPC data will have many internal uses including shelf allocation programs, store layout, evaluation of shrink and so forth. An effective program for any one of these purposes will depend on having information as close to 100% as possible.

My second conclusion for the retailer relates to the fact that for a long time not all supermarkets within an organization will be computerized to the same degree. Primarily because of cost, the financials would indicate that the ROI period will just be too long in duration if sufficient store volume is not present. It is essential that retailers recognize early in any planned program that they will most likely have to operate under a mixed system - fully electronic (that is with scanner), electronic terminals only, and nonelectronic for a long time. In addition to the internal considerations, this may also mean ongoing evaluations of data in those stores with systems and assessments of the applications of those results to stores that are not wired into a computer. Is the data generated in these stores applicable to others within an organization? Given known variables from store to store - neighborhood composition, store size, traffic pattern, competition, etc. - can the data generated be used widely throughout all stores of a supermarket group? These are not easily answered questions but rather will require careful study while multiple systems are in operation.

For the manufacturer, the watchword should be caution. For the same reasons as stated above for the retailer, the quality of the information becomes a key factor in whatever marketing decisions are made.

Also, the usability of UPC data for long-term decision making (and I'm sure you recognize that the marketing of products in grocery stores from beginning to end - planning through tracking of progress is not a short-term game) is something that needs further study. The merchandising or short-term decisions should be easy; the marketing or longer term decisions may be another ball game.

Finally, for the researchers, including those of us at Nielsen, it seems evident that the golden age often discussed is not here yet. I think it behooves all of us in the research community to do our utmost to see that whenever possible, assistance be given to retailers and manufacturers to insure UPC data is being made as strong as possible, and that improper use of the data be prevented by all parties.

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INDUSTRY RESOURCE DEVELOPMENT; WE CAN DO IT BETTER

by
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The convenience store industry is in a hurry. It has always been in a hurry. By the end of 1976, there will be 31,000 convenience stores in the United States. This number is expected to grow to 44,000 by 1980. 1976 industry sales will be $7.5 billion; 5% of U.S. grocery sales. And all of this in just forty short years.

In the beginning, the owners of convenience store companies picked all the sights, selected the products, designed the stores, hired the employees and handled all of the paperwork. The industry was filled with hard workers, working long, long days.