Magazine Readers Per Copy (1974)

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Magazine research first developed total audience estimates for major magazines more than 30 years ago. It was soon recognized that the relationship between Total audience and circulation was not a constant one across magazines. One way of summarizing this relationship is to divide one number by the other and arrive at the number of readers per copy:

Total Audience/Circulation = Readers Per Copy

The ways in which the average copy of a magazine can acquire multiple readers is well understood since they are part of our everyday experience. A given copy can be read by more than one member of a household, and also indeed by visitors to the household. It may be passed on to other households. Most important, it may enter a public place of some kind, and be read by many people. Familiar examples are beauty and barber shops: doctors' and dentists' offices; waiting and reception rooms of all kinds; libraries and clubs; airplanes; and so on.

While we understand quite well the various ways in which copies can acquire readers, we lack a detailed understanding of the reasons why one magazine may differ from another on average-i.e., how it can it be that one magazine has substantially more readers per copy than another. Yet all surveys of total audiences provide examples of this. Surveys which measure a wide range of magazines (such as Simmons and TGI) yield a wide range of estimates of readers per copy, even up to 1:10.

There is unfortunately no independent check on the accuracy of total audience estimates, apart from the use of alternative methods, of arriving at them. All are dependent on human memory. We don't have the opportunities that we have with TV audience measurement, for example, to monitor (through a meter) the usage of the medium itself or to make coincidental checks which rely on this usage being almost exclusively in-home.

Naturally enough, therefore, the users of magazine audience research tend to evaluate it according to whether it "looks reasonable" and whether the relationships found do or don't accord with common sense. There is no harm in this provided that the logic *is* logical, that the common sense *does* make sense.

Two assumptions are often made. One is that similar, directly competing magazines should tend to have about the same numbers of readers per copy. Another is that the readers per copy number for a given magazine will not change much over time, in much the same way that the weight of an adult man will not change much over quite long periods.

How reasonable *are* these assumptions? In my view, they are not as reasonable as is often supposed. With the first one in particular, there may be problems of definition: what *are* similar magazines? (Dangers of tautology, too: If we are not careful, we will regard magazines as more or less similar according to whether they are more or less similar in terms of readers per copy as measured by one particular survey, so the truth of the assumption could be trivial.)

Let us think some more about readers per copy and what logic should tell us.

Readers Per Copy Is an Average

A point which is often missed-- though if we think about it, it is obvious-- is that the readers per copy number is an average. To say that a magazine has four readers per copy is not at all to say that every copy has four readers, or something close to that number. It isn't a statistic like "four legs per dog" which could be arrived at in the same way, by dividing the number of dogs into the number of legs, but where every dog *does* have four legs.

We calculate readers per copy by estimating the average issue audience from a survey, and dividing this by the appropriate circulation as supplied by A.B.C. This operation tells us nothing about the distribution of readers per copy -how many copies have one reader each, how many have two, and so on? If we were gifted with perfect knowledge, we would know this, and would know the whole distribution, and also tile average number of readers per copy which would indeed be an important statistic of' this distribution.

Unfortunately, lacking perfect knowledge, it is not easy to collect empirical data about the full distribution. We would require some means of tracking down a representative sample of the copies; of following them around if they visit more than one place and counting the number of readers which of them acquires during its "life" (counting different fingerprints would be a perhaps

not entirely ridiculous method of doing this). The sampling and measurement problems would be acute.

Nonetheless, from considerations of logic, and of the underlying probability mechanisms involved, we can make some reasonable assumptions about the nature of the distribution. It would be surprising indeed if it were not highly skewed. The mode of the distribution is likely to be at zero, one, or two readers per copy. Some controlled-circulation publications, especially, must suffer the fate of' having more of' their copies have zero readers than any other specific number of readers simply because they are often thrown out before they can acquire a single reader. Magazines appealing primarily to men or to women are likely to have a mode at one reader per copy: dual audience magazines probably at two, reflecting the mode in the distribution of numbers of adults per household.

Beyond the mode, whatever it is, the number of copies having three, four, five… et cetera, readers is likely to decline quite rapidly. It seems unlikely that there will be other modes in the distribution what would they be? (The distinction between private place copies and public place copies, given that copies can travel from place to place is not completely clear-cut.) Moreover, the distribution, if it could be measured, would surely follow those relating to other sociological, biological, and economic phenomena in being “ruly”. As Herbert Simon has, put it, "No one supposes that there is any connection between horse-kicks suffered by soldiers in the German army and blood cells on a microscope slide other than that the same urn scheme provides a satisfactory abstract model of both phenomena." But there *is* no doubt an scheme which yields a distribution which can be described in quite simple mathematical terms. (See note on the nature of the readers per copy distribution at end.)

Two made-up examples of distribution of readers per copy appear at the end of this article. In each case, a hypothetical magazine with a circulation of one million is considered. It is assumed that all copies have readers- i.e., no copies have zero readers per copy --and that no copies have more than 50 readers. (This is certainly conservative: think of a copy of a popular monthly magazine on an airplane which makes four flights a day and which is handed out by it stewardess on almost all flights: such a copy can easily acquire 100 readers.)

In Example **I**, we assume that 615,000 copies have exactly one reader: they obviously contribute 615,000 readers to the total audience. 154,000 copies have exactly two readers: we must double this number to arrive at the 308,000 readers contributed to the total audience by these copies… and so on. In this manner, we arrive at a total of 2,767,000 readers, or approximately 2.9 readers per copy. It is clear from the distribution -comparing that part above the dotted line with that part below- that *only one-tenth of the copies* (those with six-plus readers per copy) account for *half the* readers

Example I

Circulation: 1,000,000
Total Audience: 2,767,000
Average Readers Per Copy: 2.8

NUMBER OF READERS PER COPY	NUMBER OF COPIES (000)	CUMULATIVE %	NUMBER OF READERS	CUMULATIVE %
1	615	61.5	615	22.2
2	154	76.9	308	33.3
3	68	83.7	204	40.7
4	38	87.6	152	46.3
5	25	90.1	125	50.7
6--10	53	95.4	397	65.1
11-- 20	29	98.2	412	80
21-- 30	10	99.2	244	88.8
31-- 40	5	99.7	175	95.1
41-- 50	3	100	135	100

- In Example **II**, the parameter in the theoretical single-parameter distribution has been changed and, consequently, a total of .5,473,000 readers has resulted -*i.e.,* approximately 5.5 readers per copy. Again, looking at the distribution and at tile parts above and below the dotted line, it is clear that one-fourth of the copies account for three-fourths of the readers.

Example II

Circulation: 1,000,000
Total Audience: 5,473,000
Average Readers Per Copy: 5.5

NUMBER OF READERS PER COPY	NUMBER OF COPIES (000)	CUMULATIVE %	NUMBER OF READERS	CUMULATIVE %
1	429	42.9	429	7.8
2	152	58.1	304	13.4
3	83	66.3	249	17.9
4	54	71.7	216	21.8
5	38	75.5	190	25.3
6--10	101	85.6	768	39.4
11-- 20	75	93.1	1105	59.6
21-- 30	34	96.5	854	75.2

In both examples the point is clear *the average* number of readers per copy will critically depend on the tail of the distribution, on the number of copies with (.relatively speaking.) very large numbers readers each.

How do these distributions arise?

Readers Per Copy Depends on Demand to Read

First, it must be obvious that there is a demand side to the equation. A magazine which no one wants to read will not acquire readers. A highly popular magazine will acquire readers wherever it is, with it readership per copy dependent on the location of that copy and the traffic through that location, much as the success of a downtown store will partly depend on location and on the traffic past it.

Demand to read a particular magazine is probably something which could be measured by survey methods e.g., by asking, "When you have a chance (or if you had a chance) to pick up and read a copy of “_____” how likely are you (or would you be) to do so?" (Very likely, quite likely, not very likely.)

However, demand to read may vary over time. It will certainly depend on the contents of specific issues. Just as tile newsstand sales of even a magazine primarily sold on subscription may be quite variable, we must expect the demand to read to vary by issue for all types of reader.

Demand to read may reflect, changes of interest in particular topics. The news in 1973, including the Watergate and Agnew affairs, were bound to affect demand to read all magazines dealing with news, and this is apparent from trends in TGI audience levels, for example.

Demand to read may also be affected by advertising promotion by the magazine itself. A number of magazines are making more and more skillful use of promotion to build circulation, primarily, but it must have the effect of building audience also, to perhaps a greater relative extent.

Readers Per Copy Depends on Supply of Copies

Second, there is a supply side to the equation. If there were no copies there could be no readers. At the other end of the spectrum, the strategic placing *of copies* in high-traffic locations, if there is a considerable demand to read, will generate large audiences.

The made-up examples already discussed make the significance of the supply of copies plain. To establish a presence in-flight on airlines, provided that there is the demand to read, can add many readers for relatively few coples- i.e., it can add considerably to readers per copy. If those who control what enters doctors' or dentists' offices, or beauty or barber shops, believe that a given magazine would be appropriate for their establishment – or if they are sent without

charge, this can obviously have great influence on total audience and thereby on readers per copy.

It must be obvious from this discussion that there can be no guarantee that magazines which are editorially similar should have similar numbers, of readers per copy. It will depend on the absolute demand to read each magazine and on the supply of copies.

To take it real-life example, in 1973, *Time* had, according to TGI, an average of' 4.4 readers per copy and *Newsweek* had 6.2 readers per copy. Though we do not know the reasons for this difference, it is perhaps plausible that the two magazines, both being very well known, should have much the same levels of demand to read- i.e., people who will read if they have an opportunity to read a *copy. Time* has many more subscriptions than *Newsweek* (though the newsstand sales of, each are rather similar). Yet, if both magazines are present in much the. same number of public places, the proportion of those who would read Newsweek, if they could, who in fact are able to do so, may be not too far short of the corresponding proportion for *Time,* leading to a considerably higher average number of readers per copy for *Newsweek.*

Should Readers Per Copy Remain Constant?

It will also be obvious that there can be no guarantee that a magazine which at one point in time has so many readers per copy will continue at this level. For example, a drive to get a magazine into airplanes, beauty parlors, etc., will be likely to add greatly to readers per copy.

Also, promotion of the magazine in such it way as to increase the demand to read will have the same effect.

On the opposite side, the selling of subscript ions to those who are already readers may quite well decrease readers per copy.

In short, trends in readers per copy must, at a single point in time, depend on the factors of supply and demand. 'These are at least partly under the control of the publisher of a magazine. Those who wish to increase their average number of readers per copy *can* do so. In the end, the impossibility of establishing by logic what is the plausible number of readers per copy for a given magazine is the justification for doing audience research.

Note on Distribution of Readers Per Copy

In the made-up Examples **I** and **II**, a very simple distribution has been used, namely that the number of copies, $\mathbf{f(i)}$, with exactly **i** readers will be: $\mathbf{f(i) = a/i^k}$ where **a** and **k** are constants.

In Example **I**, **k** has been **set = 2**; in Example **II**, **k =3/ 2**.

The number of *readers* accounted for by the copies with exactly **i** readers is, of course, equal to $\mathbf{ai/i^k = a/i^{k-1}}$.

This simple distribution is found empirically to apply to many different kinds of phenomena (see: H.A. Simon, "On a class of' skew distribution functions",- *Biometrika,* Vol. 42, December 1955). For example, the number of words which occur exactly **i** times in James Joyce's *Ulysses* approximately equals-$\mathbf{a/i^k}$. Similar distributions are found in real life for incomes by size, cities by population, biological genera by numbers of species, etc.

More complex distributions can be hypothesized which have more than one parameter. An obvious candidate is the Negative Binomial Distribution, which is found to apply to consumer behavior with respect, for example, to buying of products (e.g., A.S.C. Ehrenberg, *Repeat Buying,* Amsterdam, 1972), visits to stores, and viewing of' TV programs. The NBD can be derived from a stochastic model in which the events concerned (reading events in our case) follow a Poisson distribution for each individual item (i.e., each individual magazine copy). While the long run frequency of these events (Which in our case would depend on the location or location sets of the magazine copies) follow a Gamma distribution.