John R. Miglautsch, PDM

Application of RFM principles: What to do with 1-1-1 customers?

John Miglautsch is founder of Miglautsch Marketing, Inc. which provides database marketing consultation and modeling. He received his MA and BA from the University of Wisconsin-Madison and PDM from the University of Missouri. He is the founder and Executive Director of the International Society for Strategic Marketing with members in 70 countries. John is on the Board of Directors of the Wisconsin Direct Marketing Club. John speaks at Marketing conferences all over the world. He was a major contributor to the 8th Edition of *Successful Direct Marketing Methods.*

ABSTRACT

ISSM's Executive Director shares his thoughts on Recency, Frequency and Monetary (RFM) scoring and other marketing techniques, e.g. weighting, life-to-date and quintiles. Inherent in the basics of RFM are its fundamental limitations. RFM alone, by definition, cannot move beyond this point. Segmentation of 1-1-1 requires the creation of additional variables. As you attempt to move beyond the 1-1-1's, and the your variables proliferate, you will find it necessary to understand automated analysis. As you investigate this process, remember, the 1-1-1's are your biggest customer segment and probably your greatest untapped potential.

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Introduction

Recency, Frequency, Monetary scoring has been the foundation of most direct marketing segmentation for decades. Consistently, the most recent buyers out-perform all others, multi buyers (who have a purchase frequency greater than 1 time) beat one-time buyers and at the bottom of the segmentation food chain, you can sort the individual remnants by life-to-date monetary sales. And as long as the world moves along at a steady pace, the methodology seems to repeatedly select the better customers. In this paper, we will look beyond common acceptance and attempt to examine some areas of weakness in RFM .

Although RFM has been widely used[1], it does nevertheless have significant limitations. RFM is based on buying behavior; when and how much has been bought. Consequently, it focuses on the best customers, almost exclusively. As we discussed in our prior paper[2], meaningful scoring must focus on significant differences in customer behavior. Applying this methodology to simple Frequency, one sees case after case where more than 50% of the customers have only purchased once. If we consider the single/multi-buyer variable in our selection, we have very little choice, either mail the 50% or do not. Yes, we can apply R and M, but it helps very little. Most mailers find that over 50% of their customers placed very small orders. These customers form the overwhelming majority of the one-time buyers. Recency helps slightly, if your company is new and growing rapidly. However, if you have been in business a decade or more, you will again find that well over 50% of your customers have not bought in the past 24 months. Hardly the refined target marketing we read about when we began our database career.

The above case begins to describe the 1-1-1 customer, those who have not bought often, spent much or bought lately (strictly speaking these are all "and" conditions). As noted, these often make up 50% of a mature customer file count. One might consider revising scoring methods in order to create a finer grid through which to view segmentation decisions. But as the case of Frequency illustrates, introducing a customer split between groups who have both ordered exactly one time would be confusing, distorting and completely inappropriate. It is our contention then that RFM does not, within its own variables provide the power to decide exactly what to do with this HUGE 1-1-1 customer lump. If we have the money, then perhaps they should be contacted, if not, perhaps they should not[3].

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[1]Catalog Age, April 1999, reported that only 33% of catalog marketers in the United States had even RFM. That percentage had slipped from 35% the year before.

[2]Miglautsch, John R., Journal of Database Marketing, Volume 8, Number 1, August 2000, Thoughts on RFM scoring, p. 67-72.

[3]Arthur Huges, internationally known database and RFM expert, commented privately that with the introduction of virtually free email, RFM customer segmentation may become irrelevant. We would contend that there are additional considerations beyond cost. Time will certainly tell.

When RFM segmentation is used, significant numbers of customers are not contacted. RFM practitioners will typically trim the 1-1-1 since they have not responded in two years or more of offers. The choice is often a painful one. When a company is new, all customers are also new. As long as substantial growth is maintained, the new customers offset the small number of early customers who have not reordered. But as the 1-1-1's get larger and larger, the weight of their contact cost makes their repeated re-contact increasingly unprofitable. Obviously, customers not contacted rarely respond. This tends to confirm the hypothesis that it was correct to simply eliminate large quantities of old customers.

The true focus of RFM is the top 20% of the customer file. The 5-5-5's who bought this quarter, have bought regularly and spend lots of money. RFM zeros right in on those people. At the same time, any business paying any kind of attention will also spot those great customers. A relatively prosperous business mailer did not mail anyone after 12 months and only mailed the customer file 4 times per year. However, whenever a customer ordered, they were mailed a special catalog. Another catalog was inserted in the shipment. That meant that the 5-5-5's who ordered monthly would effectively receive 28 catalogs per year even though the business only had 4 main catalog mailings. In the past 20 years, we have seen many very different customer contact strategies which similarly ignored RFM but nevertheless managed to contact the best customers more often than the worst.

RFM if followed slavishly almost guarantees smaller circulation. The 1-1-1's are simply too big, too expensive and too obvious to keep mailing. But that brings us to the crux of the problem, if rational RFM scoring rightly groups large numbers of older, one time, less valuable customers together, how do we counter act the temptation to simply write them off and shrink our company?

Level 2
Customer Counts
by Frequency and Monetary
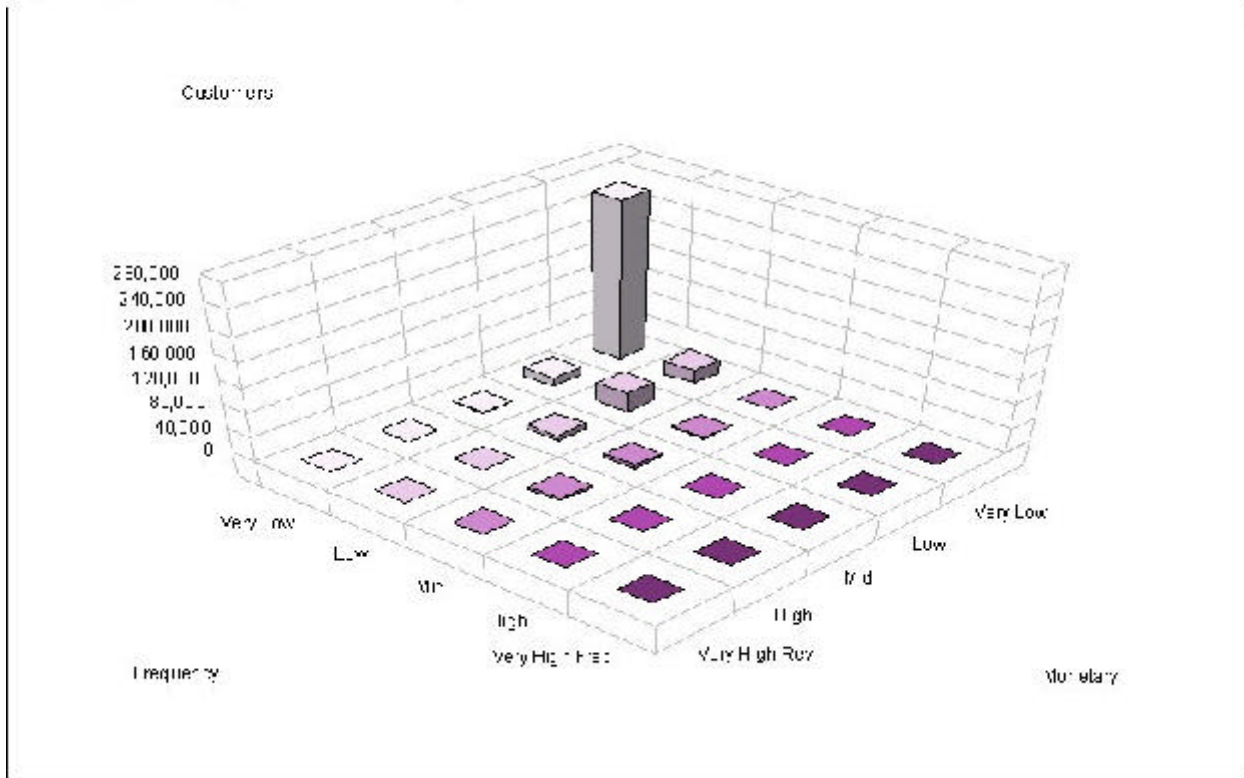
0-3mo Recency	0-3 mo	4-6 mo	7-12 mo	13-24 mo	>24 mo	RECENCY
Very High Freq	5	0	1	0	0	6
High	711	85	28	18	2	844
Mid	5,924	2,509	1,774	789	239	11,235
Low	16,278	10,770	13,351	13,004	8,424	61,827
Very Low	30,975	22,391	40,554	80,774	105,918	280,612
FREQUENCY	53,893	35,755	55,708	94,585	114,583	354,534

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[4]This data reflects the wide skew toward poor RFM customers. 280M of the 354M are one time buyers. Recency is not quite as slanted, nevertheless one third of the customers have not purchased in the past 24 months. This example is from a business-to-business catalog company.

Consumer Segmentation
Frequency - Monetary Counts

Customers
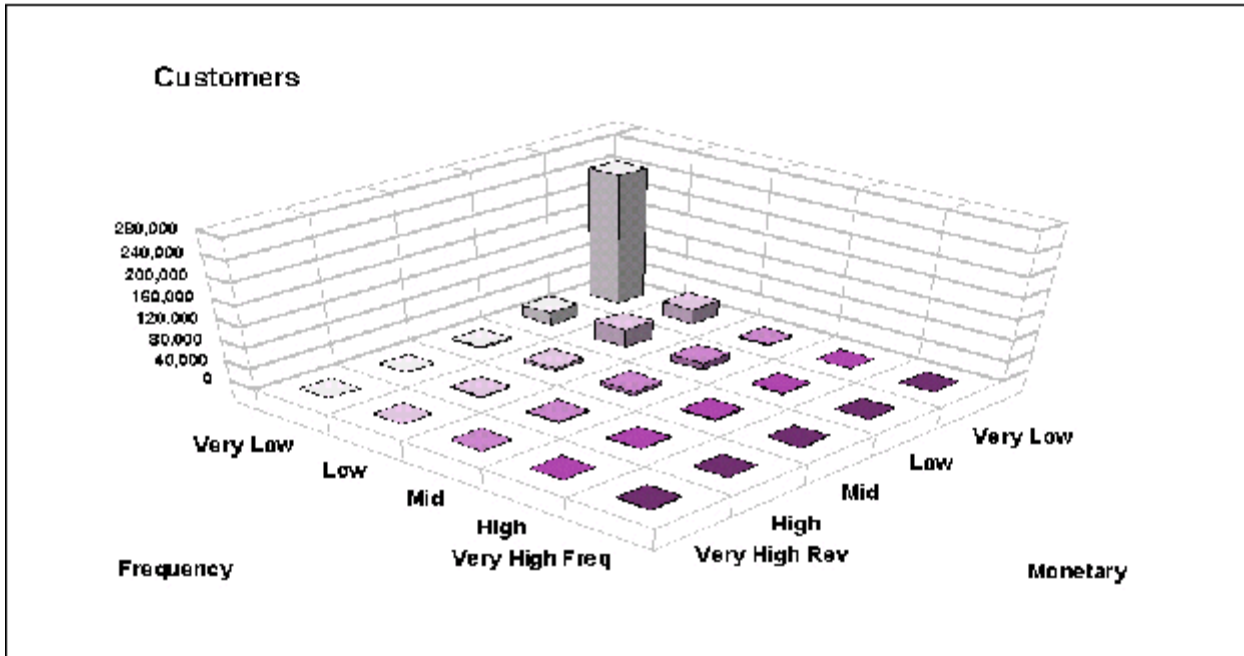
0-3mo Recency	0-3 mo	4-6 mo	7-12 mo	13-24 mo	>24 mo	RECENCY
Very High Freq	760	341	397	304	264	2,066
High	1,527	1,111	1,487	1,340	1,585	7,050
Mid	3,858	2,870	4,756	5,406	8,875	25,765
Low	7,692	5,846	10,692	14,102	35,616	73,948
Very Low	17,957	15,895	28,756	47,343	170,512	289,463
FREQUENCY	31,794	26,063	46,088	68,495	216,852	389,292

[5]This data comes from a consumer catalog. Though the industries and markets vary widely and this company has a slightly narrower distribution of frequency, still, over 50% of the customers combine for a low frequency and low recency. As the chart illustrates, monetary is similarly skewed toward the low end. 1-1-1 customers clearly dominate the segmentation and customer behavior.

Returning to the puzzle of applying RFM, it is easy to reduce circulation and customer contact. However, as we have discussed, there is little information on the lower segments of RFM 1-1-1's. Given the lack of information, it is relatively easy to reduce circulation, however, it means eliminating the largest segment of customers from contact. Low RFM customers not contacted tend not to respond therefore RFM tends to be self fulfilling.

Most mailers have contacted the 1-1-1's at least 24 times as they slid down the recency scale for the two years after their initial purchase. One may think that they have been given more than enough opportunities to purchase again. At the same time, it is not uncommon for customers to purchase durable goods which do not need replacing quickly. Small mailers know that were these older 1-1-1 customers contacted, some purchases would be generated... though not at a profitable response rate. The tension exists between budgeting money to attempt to reactivate old 1-1-1's vs finding new customers with advertising and other direct marketing.

Companies who repeatedly mail the 1-1-1's find that they perform at or slightly below their best prospect lists. The business or household has had a demonstrated interest in the product. At the same time, the specific buyer may have moved or changed interests. Were we able to peer into the individual realities, we may find a totally different set of people at that address. Mailing to them may prove completely futile. At the same time, birds of a feather, flock together. This address has some propensity toward similar interests simply because it is in a certain geo-demographic strata.

However, as the 1-1-1's continue to age, they become increasingly unproductive, falling well below rented lists in performance. This is mainly due to the inability of standard RFM to adjust to the advancing age of the least responsive customers. Without adjustment, the average recency would increase indefinitely. Obviously, the solution is either to adjust the recency scoring or to reclassify the oldest customers as inactive. Strictly speaking, adding more recency bands will retain the 1-1-1 problem (but the meaning will change through time) so we favor the reclassification approach.

Conventional wisdom says that it is better to retain a customer than to find a new one.[6] Maximizing customer retention and lifetime value is an industry mantra. However, in many product categories, most notably special interest hobbies (where people buy a large quantity of gear in the early stages), age specific sports gear or high fashion (where people are continually looking for a "new" experience) our experience suggests that new customers can occasionally be far more profitable than long-time loyal customers. We raise this issue simply to suggest that many direct marketing companies find it acceptable to mail buyers repeatedly for 24 months (regardless of reorder). At some point (typically between 12 and 24 months), mailing frequency is reduced. Finally at say 36 months, the customer is reclassified as dormant. At that point (or shortly before) some reactivation efforts are attempted. Dormant names may be matched against

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[6]Reichheld, Frederick F. "Loyalty-based Management,"*Harvard Business Review,* March-April 1993, p.66.

phone directories or response databases to determine contact information accuracy as well as competitive dormancy. Following those efforts the dormant customers may be inserted in the merge/purge as a suppress file (or in order to flag resurrection within net name agreements).

Nevertheless, reactivation strategies, though important do not address what to do from a database standpoint while the customer is in the never-never-land between hotline buyer and dormant reclassification. Since the 1-1-1 segment is by far the largest (even where companies practice reclassification) if there were a way to peer into it, it may provide the greatest growth opportunity.

The fact is that when the 1-1-1's are contacted, they do produce orders. They may not be profitable after taking contact cost into account, but this indicates that there are viable customers buried in there (if only we could find them).

Overcoming RFM limitations RFM Extension

As we have examined some of the challenges presented by the 1-1-1 segment, all of the viable solutions have been to increase the complexity of the basic RFM segmentation system by creating additional variables. Those options included reclassifying old dormant customers (Recency), selecting multi buyers (Frequency) or limiting selection to1-1-1's with the greatest
life to date purchases. In every case, the sensitivity of RFM is heightened by more carefully handling the continuous data that makes up the RFM data work-arounds are available. Sub-segmentation is the key to 1-1-1 viability and profitability. Unfortunately, again, RFM by itself is not designed to break up the 1-1-1's.

There are three main classes of variables which can be added to RFM to break up the 1-1-1's. The first is internal purchase information. These are variables which can be created from the existing transaction data. In catalog companies there are a wide variety of products which can be classified by an assortment of dimensions (i.e. price point, use, market, and even what they are made of). There are literally an infinite number of product classification schemes. However, the most useful identify something specific about the customer and their market or lifestyle.

The next class of variables is generated from geo-demographic information connected to postal code. Since every customer has a postal code, this data has the advantage of being universal in its application to customers and prospects (people who have no purchase history). These are typically consumer variables usually based on national census information. Though they are specific to consumer income, dwelling value, family make up and occupation, they are applicable to both consumer and business-to-business. They apply to business analysis because businesses are either directly tied to the economics of their community (i.e. restaurant or retail store) or they are national/international in marketing and not tied to their local economy (i.e. catalog company, specialized consulting firm, etc.). In the second case, the company is located where it is because of the amenities of the community (still geo-demographic in nature).

The final class is more difficult to define. Let the overall umbrella be called custom variables. Typically they are a combination of inside and outside data. As mentioned earlier, customers can be matched against outside data sources, either compiled or response databases. The downside of most outside matching is that fewer than 50% of the customers match (even using phone numbers). That once again leaves large numbers of 1-1-1 customers unclassified. Then there is a wide array of options which can be related to customers by linking list counts and postal code data. Counts can be generated from any mailing list currently being used (with the list owner's permission of course). If one were mailing say, the National Horse Owner's Association, that list could be broken down into count per postal code, density per postal code, percentage of population (or household) per postal code, etc. Counts by industrial classification are also available. This could generate variables such as riding stables per postal code. The important point is that these variables can be built from any list. They are built by comparison to your good customers to determine penetration. Once found to be valuable they can be used to break up the 1-1-1's.

It is beyond the scope of this paper to examine the specifics of building and analyzing these variables. Suffice it to say that there are an infinite number of possible variables. In our typical modeling process we use over 300 categorical variables for each customer (and there are a matching 300 continuous variables used to create those). Imagination and processing power are the only limits.

Conclusion

Inherent in the basics of RFM are its fundamental limitations. RFM alone, by definition, cannot move beyond this point. Segmentation of 1-1-1 requires the creation of additional variables. As you attempt to move beyond the 1-1-1's, and the your variables proliferate, you will find it necessary to understand automated analysis. As you investigate this process, remember, the 1-1-1's are your biggest customer segment and probably your greatest untapped potential.