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As the Director of the Master of Science Degree Program in Mathematics at Fairfield University I was requested by Fraud Discovery Institute to review the pay plan and basic business model of the company, Pre-Paid Legal Services. With mathematical principles I was asked to evaluate the viability of the income proposition presented to consumers as well as the sustainability of the company's business model, as it would affect investors.

I have written or contributed to several books, including "Number Theory: An Introduction through the Sequence of Primes" with G. Rosenberger, published by Birkhauser -Springer-Verlag, 2006, and "Combinatorial Group Theory, Discrete Groups and Number Theory" edited with A. Gaglione and D. Spellman, Contemporary Mathematics Series Vol. 421- AMS – 2007. I have also published numerous articles in academic journals.

Based on my review of Pre-Paid Legal's published compensation plan, data disclosed in its latest 10K regarding total number of sales people (Associates), customers (Associates and Members), and data on historical cancellation rates, I conclude that sustainable profitability for the vast majority of consumers who invest as Associates, regardless of effort or talent, is mathematically impossible. Similarly, the company's own sustained profitability is not feasible for related mathematical reasons. I arrived at this conclusion independent to recent declines in the company's recruitment levels, though such declines are inevitable based on its flawed model.

I focused my analysis on three key factors:

1. Sales Saturation

The amount of agents grows exponentially and quickly and uses up the available population. Further, the amount of people required to be approached to become agents, given even a reasonable probability of a sale, becomes too large. I explain below.

- To earn a profit, disregarding retail sales to Members, which I'll get into in the next comments, an Associate (sales agent) must recruit at least ten other sales agents. Given the small, almost nonexistent residuals from retail sales, and the high drop rate this is an estimated minimum. If these ten recruit ten agents each, there are 10² or 100 different agents. At level n there are then 10ⁿ agents. So, for example, at the fifth level there are already 100,000 agents in a

single person's "downline". In a city like Norwalk, Connecticut, for example, there are only 80,000 people. Given the types of people who are attracted to this "income opportunity," many would not have the mobility to get out of the immediate area and hence the 100,000 at level 5 has used far more than is possible.

- Historical recruitment data disclosed in SEC filings indicate that are as many as 1.5 million Associates, current and resigned. If they had stayed with the company they would have had to recruit 10 each, for 16 million agents. At the next level there would 160 million Associates, or over one half of the US population. There is no possibility that there would 160 million PPD Associates in the US.
- The mathematical limits imposed on the program must, therefore, produce high "dropout rates" regardless of effort, talent, or any other personal or market factors. This is to say: failure of the vast majority is mathematically mandated.

2. Recruitment Saturation Effect

Ignoring the overall saturation effect, consider the number of people that would have to be approached in order to recruit the minimum number of 10 agents.

- Optimistic probability of recruitment is 10%. The true probability might be more realistically at 1% or less – especially after a using up immediate family members and acquaintances. 10% is used for purposes of example.
- The newly recruited PPD Associates would have to approach 10 people on average for every one successfully recruited. From the figures above, to recruit 100,000 Associates requires 1,000,000 solicitations. Hence the saturation for talking to possible recruits is 10 times what is even needed to recruit. Clearly, the pool of possible recruits becomes saturated even faster.

3. Retention

The saturation effects illustrated above prevent any significant numbers, among the newest Associates, from ever recruiting enough other Associates to get the "downline" residual effect. It follows that sustainable profits would have to come from retail sales.

- Historical retail sales data and cancellation rates disclosed by the company in its SEC filings indicate it is highly improbable that any significant numbers of new Associates achieve profitability from retail sales. PPD's latest SEC filing indicates that, historically, few Associates earn any profits at all from retail sales. It states that only 81,731 out of 425,018 "active" Associates made even one sale during the year and just 6,996 made 10 sales or more.
- The cancellation rate reveals the unfeasibility of sustainable and profitable retail sales for the Associates

Membership Retention versus Membership Age

As of December 31, 2008				As of December 31, 2007		
Yearly Lapse Rate	Yearly Retention	End of Year Memberships	Membership Year	Yearly Lapse Rate	Yearly Retention	End of Year Memberships
		100.0	0			100.0
49.3%	50.7%	50.7	1	49.4%	50.6%	50.6
32.2%	67.8%	34.4	2	32.0%	68.0%	34.4
23.7%	76.3%	26.2	3	23.0%	77.0%	26.5
18.1%	81.9%	21.5	4	18.5%	81.5%	21.6
15.0%	85.0%	18.3	5	14.8%	85.2%	18.4
12.5%	87.5%	16.0	6	10.3%	89.7%	16.5
8.5%	91.5%	14.6	7	7.9%	92.1%	15.2

- The data in the chart above from PPD’s latest SEC filing shows that on average, nearly 75% of Members terminate their PPD product within three years. Within the first year, half cancel. Thus the Associate that successfully enrolled 10 would have only five remaining within a year.
- The cancellation rate has significant mathematical meaning. Sales carry a history of 50% cancellation rates within 12 months. A 36-month advance commission on 10 sales, therefore, generates 33% chargebacks on the total commissions. The chargebacks are then owed by the Associate back to PPD (two-year chargebacks on one-half the sales equates to a 33% chargeback on the entire commission paid on the 10 sales.)
- To stay current, the Associate would have to make 3 new sales immediately to replace the 5 lost. In the second year, two more of the original 10, as well as half of the 3 replacements would also quit, causing more of the original payment to be owed back to PPD and requiring more sales to recoup the mounting chargebacks.

The high and rapid cancellation rate makes selling PPD products on a one-to-one basis unfeasible and certainly offers little potential for residual income without a constant sales effort. The mathematical relation of the advance payments to the cancellation rate places the Associate on a treadmill of unending sales and recruitment. From the discussion above remember that 10 or more contacts are needed to successfully make a sale, with each contact carrying normal sales and marketing expenses.

Since the mathematical odds of sustainable success, based on my analysis, are extremely low for the vast majority of investing consumers, I conclude that any representations by the company or its representatives of a broad-based opportunity for

profit are false. It follows that any levels of success achieved by individuals within this system are accompanied by deception since the income proposition they are promoting is mathematically unsustainable.

I would be pleased to make a more detailed mathematical analysis. However, I believe that this initial examination of the data is adequate to conclude that the income proposition is false and misleading and that the requirements for the company's ongoing sustainability cannot be maintained.

The company's success and the success of the hundreds of thousands of new consumer investors are based on the impossible mathematics of what is sometimes called an "endless chain," "pyramid" or "Ponzi." The income of the later investors depends entirely on an ever-expanding entry of new investors. This ongoing "infinite" expansion requirement violates mathematical realities within a finite marketplace.