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**REDUCING LONG DISTANCE TRUCK DRIVER'S INTENTION TO LEAVE:
AN ANALYSIS OF PROFESSIONAL DRIVERS AND OWNER OPERATORS
USING IMPORTANCE/PERFORMANCE METHODS**

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ABSTRACT

Since it is widely known that turnover is highest among unsatisfied employees, the authors argue that long haul professional drivers (PDs) and owner operators (OOs) can be retained by using a yearly importance/performance analysis of company drivers. Because qualified drivers are becoming more scarce and difficult to recruit/retain, carriers need to focus on increasing driver retention. In this article, we suggest an Importance/Performance (IP) model which uses an "if then" perspective, relating intention to leave as a function of the PD/OO: IP structure. This model is used to explain the managerial changes that could be made to retain professional drivers and owner operators.

**INTRODUCTION AND LITERATURE
REVIEW**

Research into the nature and causes of truck driver turnover and retention in the United States has been ongoing for much of the last twenty-five years. Reasons for interest from both researchers and practitioners in this area abound and continue to increase in importance for a number of reasons. The following subsections discuss the industry and the driver retention issue, and highlight some of the reasons for this interest from researchers and practitioners.

Growth in Demand

First, even after accounting for the prolonged recession in the U.S., the volume of truckload freight movements has declined in some product categories, increased in others, but has shown more strength of demand and even growth than

in other areas of the economy. The strength and stability of demand for truck transportation is in part due to growth in international trade. According to Meixell and Norbis (2008), growth in imports and exports in this country have outpaced growth in the economy as a whole and they expect this trend to continue. As the economy continues to improve over the next few years, this will lead to a significant rise in the demand for truck transportation. Of course, as the demand for truck freight transportation increases, the demand for drivers mirrors this change.

In fact, the demand for drivers in the U.S. has been growing more rapidly than the supply for a number of years. The increasing gap has implications for all sectors of the economy, not just transportation and logistics. In a 2005 study, it was reported that the supply of truck

drivers is expected to grow at an annual rate of 1.6 percent over the next 10 years, while the demand is expected to grow by 2.2 percent annually (Global Insight, 2005). Exacerbating this growth gap, the Council of Supply Chain Management Professionals (CSCMP) reported in 2010 that nearly 143,000 drivers have left the industry (changed occupations) since 2007, creating an anticipated shortage of 400,000 drivers by the end of 2011 (2010). In 2013, the CSCMP reported that the trucking industry was short 30,000 drivers. Although not as severe as predicted for 2011, the shortfall of drivers will likely be further impacted by the new hours of service regulations, pushing this number back up to 130,000 (2013). Further, the Bureau of Labor statistics considers commercial trucking a “high demand” job and expects 300,000 jobs to open by 2020, a growth rate of 21% (Henderson, 2012).

Driver Turnover Rates

The attrition rate for drivers in the U.S. motor carrier industry has climbed significantly in the past quarter century. According to the American Trucking Association (ATA), the industry average turnover rate for large truckload carrier line-haul drivers has risen to 97 percent in the first quarter of 2013 – the sixth such consecutive increase (2013). This same source predicts additional consecutive increases in the turnover rate in this industry category due to competition for drivers in the improving economy. It should be noted that there is a great deal of variability in the published estimates of driver turnover rates which may, in part, be ascribed to variance in the composition of the sampling data. For instance, turnover rates are not the same for large truckload carriers compared to large less-than-truckload carriers. Rates will also vary by size of carrier, average length of haul, variations in compensation and benefits, equipment type, etc. As an example of variation by type of carrier, one study reported a turnover rate as high as 130 percent in the irregular route truckload sector (CSCMP, 2006). In the not too distant past, driver turnover rates in excess of

100 percent have been reported for the truckload sector as a whole (Transport Topics, 2007; McElroy, Rodriguez, and Griffin, 1993).

Low Switching Cost

There is little cost for drivers to switch from one carrier to another. This low cost of switching contributes to the turnover and retention issues with truck drivers. The driver skill set is consistent from carrier to carrier and from market segment to market segment. It is even common practice to pay “commissions” to drivers for each new driver they recruit for their company. Virtually every truck stop in the country has magazines, posters, flyers and in some cases “headhunters”, all touting the advantages of working for a specific carrier. The reasons associated with switching carriers range from better pay and benefits to newer and better equipment. This low switching cost has been referred to in some studies as a “natural tendency” to migrate from carrier to carrier (Keller, 2002; Suzuki, Crum and Pautsch, 2009). It has also been estimated that almost 50 percent of truck drivers in the U.S. change jobs within the first three months of employment (HRM International Digest, 2003). The average driver has been in his/her current job for between nine and twelve months (Suzuki, 2007).

Cost of Turnover/Retention

Employee turnover is costly to organizations, regardless of the occupation and/or industry segment involved. In the domestic motor carrier industry, the costs associated with turnover, recruiting, training, retention, motivation, etc. are significant. There are also significant costs associated with lower productivity of less experienced drivers, loss of revenue from driver service failures (late or missed pickups and/or deliveries), and lack of market coverage due to shortages in available drivers (Dobie, Rakowski, and Southern, 1998).

While the breadth and magnitude of the cost of driver turnover is very difficult to estimate accurately, there is some evidence in the literature that the total cost to the industry and to the economy is highly significant.

According to an article by Suzuki, Crum and Pautsch (2009), cost estimates for the replacement of a single driver range between \$2,200 and \$21,000, with the range being accounted for by factors such as tractor repositioning costs, drug screening costs, road testing and driver training for new drivers, and various types of opportunity cost such as lost freight revenue (see also, Joe White, 2012). As a rough measure of the impact of these figures, consider the following example. In a study by Harrison and Pierce (2009), it was estimated that truck drivers numbered 2.9 million in the U.S. in 2006. Applying a conservative overall annual turnover rate of 75 percent yields an estimate of 2,175,000 drivers changing jobs annually. On the low side (\$2,200 per driver), the total annual cost to the industry would be \$4.79 billion. On the high side (\$21,000 per driver), the total annual cost to the industry would be \$47.85 billion.

Turnover and Intention to Leave

In today's highly dynamic economy, especially in times of a qualified truck driver shortage, it is very difficult to find employees that match their expectations with the organization's values and culture. Therefore turnover is inevitable. Turnover is defined as the loss of a driver for any particular reason. There are two types of turnover, voluntary and involuntary. Voluntary turnover occurs when drivers leave the organization deliberately (i.e. quitting); this can be contrasted with involuntary turnover, which occurs when drivers leave the organization without choosing to do so (i.e. fired or laid off) (Lee et al, 2008). The focus of this research is on the driver who might leave through his/her own volition.

Turnover intention is described as the cognitive process of thinking, planning, and desiring to leave a job (Mobley, 1977). It occurs just before

individuals actually leave their jobs. Intention to leave is linked with actual turnover. In practice, employers would rather know their driver's intention to quit, prior to them actually leaving, so management can take preventive measures and encourage them to stay (Wong and Tay, 2010). When the employee has decided to leave, it is too late for human resource managers to do anything. Therefore, there is not a lot that can be done other than to hire a very costly replacement.

In addition to the dollar costs of turnover, drivers incur other costs when they leave a job. Negative consequences to drivers include losing seniority, and the disruption of social life (Mobley and Fisk, 1982; Roseman, 1981). Also, transitioning to another job or situation can take a personal toll. In addition, a new job can be stressful and cause considerable uncertainty and ambiguity (Brooks et al, 2005).

Job Shifting

Organizations must distinguish between controllable and uncontrollable turnover, and not spend resources trying to retain drivers who leave for reasons outside the carrier's control. Such efforts are highly unlikely to yield positive results.

Some workers have the natural impulse to move from one job to another for sometimes no apparent or rational reason, that is, irrespective of whether they have better alternative job offers or not. Ghiselli (1974) describes this as hobo syndrome behavior, "...the periodic itch to move from a job in one place to some other job in some other place." Wong and Tay (2010) suggest that job hoppers like the mobility and freedom to be able to frequently change jobs because they know exactly what they want to do with their lives and career. The random nature of the job hopper makes their identification and profiling very difficult.

Summary

The above subsections identified a number of the issues relative to driver turnover. Some of

the reasons for turnover are controllable by management and some are not. This research focuses on the controllable aspects of turnover. Identifying possible turnover candidates, and managerially dealing with their issues, can possibly encourage these drivers to stay with the company. From an analysis standpoint, these possible turnover candidates form the basis of our study.

RESEARCH QUESTIONS

The importance of driver retention in the trucking industry is both relevant and important to the economics of the US trucking industry. Thus, this research attempts to take a snapshot in time of what is important to both professional and owner operator long distance truck drivers and how they feel companies are dealing with these needs. The following research questions (1-3) deal with examining these issues.

- Research Question 1: What is the Importance/ Performance (IP) structure for professional drivers (PDs)?
- Research Question 2: What is the IP structure for owner operators (OOs)?
- Research Question 3: What are the differences in IP structure between PDs and OOs?

In addition, this research establishes a managerial structure for enhancing driver satisfaction and a suggestive structure for reduction of intention to leave, hence turnover reduction. Therefore we propose the following research questions (4-5).

- Research Question 4: What can managers do to reduce intention to leave for PDs?
- Research Question 5: What can managers do to reduce intention to leave for OOs?

METHODOLOGY AND ANALYTICS

The use of Importance – Performance analysis in research is not an exact science. It follows more or less a process of identifying the important issues, namely professional driver (PD) and owner operator (OO) human resource/

employment and company retention issues and then developing a suitable sampling and data collection mechanism. The IP structure is developed from the data collected about the importance of an issue to the PD or OO and then how the company performs (serves) on the issue. What makes this research unique is the addition of an “intention to leave” scale, which addresses the likelihood of a PD or OO leaving the company. This intention to leave data can be used in an “if-then” model to predict what issues might lead to a PD or OO leaving the company. The enhancement of information on these issues might enable the company to create a predictive type model of retention for the PD or OO driver. To develop the model, five research questions are addressed in this research. The following methodology was used to answer the research questions and develop the if-then model.

Questionnaire Development

An original set of important long distance truck driver employment issues (items) were chosen from the literature, discussions with various trucking management groups, and a focus group of 10 regional drivers from large fleet managed trucking companies. This list was further reduced by asking the ten (10 - 5 PD and 5 OO) regional drivers to rank order the items as to how important these issues were to them. Eighteen items remained to ascertain perceptions of critical issues to drivers while working as a PD or OO for a fleet trucking company.

The intention to leave (IL) measure was developed using a composite three item (question) scale (5 point Likert scaling), adapted from Tett and Meyer (1993) to measure the intention to leave an organization. It has an alpha reliability of .89. A set of additional questions were asked to assess the drivers’ experience level.

The questionnaire was tested on a set of professional drivers, owner operators, and managers to determine if any changes should be

made to the questions. This established content validity for the data collection.

Survey Methods

Two separate samples were developed for data collection. This seemed to be the best sampling approach given the differences between professional drivers and owner operators in the long haul trucking industry. Two sets of differing size carriers were asked to participate. They were also asked to implement the online data collection by using their email systems to encourage drivers to participate. The data collection was kept open for twelve months, ending December, 2012. These carriers have asked to remain anonymous. However, they represent a typical fleet carrier on average with about an 80 % “PDs” to 20 % “OOs” ratio. The questionnaire was sent by the carriers to the bulk of drivers within the two strata. The only requirement for the stratification besides the driver split was to have the drivers vary in experience levels for current and previous companies. The online survey was conducted using Questionpro (www.questionpro.com) software. Due to the sampling procedures and the carriers’ participation, the completion ratio for the sampling was on average approximately 70% while the “view to start” ratio was approximately 60%. Thus the sampling seemed efficient and representative of the sampling stratification requirements. The analytical sample represented 862 PDs and 292 OOs. Eighty-five percent of the PDs had at least 4 years of driving experience, while 10% had between 5 and 12 years of experience. Approximately 90% of the OOs had at least 4 years of driving experience while 5% had between 5-8 years of experience.

Analytically and Importance-Performance Analysis (IPA)

IPA, along with its many derivative forms, is a well-developed, simple to understand, managerially useful marketing research technique. IPA, in its original conception, was developed to measure attribute importance and performance to develop effective marketing programs (Martilla and James 1977). Although often criticized and

creatively modified (Deng and Huo 2008), it is a very useful tool to organize important service attributes relative to provider (in this case a trucking company) performance. After the IPA analysis is completed, a manager can set priorities for changing how the company deals with the issues that the drivers feel are important but underserved (Tyrrell and Okrant 2004). Essentially, the method begins with the specification of how important an issue is to a professional driver (PD) or owner operator (OO) while driving for a particular company (their expectations). The PD or OO then evaluates how well the company is serving each issue (performing). The PD or OO evaluates the relative importance (scaling from extreme importance to not important), and then evaluates whether the company is dealing positively or negatively with an issue (scaling from excellent to poor). The relationship between the sample’s (PD sample, and OO sample) importance mean ratings and the performance ratings form a grid analysis with the structure found in Tables 1 and 2.

After examining the structure in Tables 1 and 2, where the IP column reflects the IP relationship (HH HL, LH, LL (high importance, high performance to low importance, low performance)), managers can use this model in Table 3 as a guide to allocate/reallocate resources to enhance the driver’s feelings that an important issue is served. In the case of this research, we are also examining the IP feelings of drivers who report an intention to leave. Managers could also use the guidelines in Table 3 to provide better managerial matches with driver expectations to suggest ways and means to serve the drivers’ needs and therefore decrease their intention to leave.

DISCUSSION OF RESULTS

Research Question 1

The IP results for the professional drivers (PDs) are shown in Table 1. The highest ranked items in the structure that are important to the PDs reflect the themes of honesty, competency, problem solving, compensation, home time,

and loyalty. The (PDs) drivers' perceptions of how their respective companies perform on these items are shown as HLs (high in performance but underserved) in the table. Generally, the PDs perceive that the companies perform poorly on these issues and they are important to them. Of interest in the table is the – “Providing Advancement Opportunities” item – which the PDs believe their companies are not responding to. Using the guidelines in Table 3, it would seem that management for the respective carriers would do well to improve these items to affect positive PDs perceptions and suggestively – their job satisfaction.

Research Question 2

The IP results for the OOs, owner operators' stratum are shown in Table 2. The highest ranked items, important to the OOs, seem to reflect the themes of honesty, respect, competency, compensation, prompt problem solving, loyalty, and communication (issues/change, rules). Generally the OOs perceive that the companies are also performing poorly on these issues. Of greatest concern to the OOs are loyalty, honesty, and compensation.

Research Question 3

The comparison of IP results of the PPs and the OOs in the sample (Tables 1, 2) seem to indicate a similar pattern of IP with the exception of honesty, respect, problem solving, and dispatch. Although both strata believe these are important and that management performs poorly on these concerns, the OOs seem to perceive that management performs more poorly on these items.

Research Questions 4, 5

The basis of retention is a combination of good recruiting, confirmation of initial and ongoing expectations of drivers, and continuous company management of the issues/concerns that drivers have. The analysis of the PDs and OOs intention based upon their perceptions of

their IP structures may give company management a snapshot of what they are doing correctly, or not, to keep the drivers in the fold. Obviously, management might not have the resources to affect all of the changes suggested by the IP structure, nor can we be sure that these changes will result in higher retention. This will have to be monitored by companies on a long term basis. Our intent is to give a carrier a model prognosis (using Table 3) and a plan of change to retain drivers.

Ninety seven of the eight hundred and sixty two (97/862) of the PD sample indicated a high probability of leaving the company (Table 4). This estimate is based upon the composite (IL) “Intention to Leave” scale. Generally, this would indicate that if the sample was a true reflection of a PD, then companies would have to deal with a possible twelve (11%) per cent leave rate. If one examines the IP data for PDs (Table 4), one can conclude that certain IP items might have an impact on driver retention. For the PD stratus, these would be compensation, loyalty and honesty. Obviously, this is not a slam dunk, if - then model. But, it makes intuitive sense, from the literature, that higher perceptions of job satisfaction can be an indicator of retention (Rust, Stewart, Miller, and Pielack 1996). Similarly, if one examines the IP data (Table 5) for the OOs stratum, one can conclude that management might be able to reduce intention to leave, thus enhancing retention, (52/292 or ~18% for OOs) by positively changing driver perceptions of honesty, compensation, respect, and loyalty.

DISCUSSION OF MANAGERIAL IMPLICATIONS

Although, it might seem trivial to some, this is the first attempt to examine retention using a somewhat sophisticated managerial tool. The “if – then” model, although easily criticized as with all IP approaches, seems to provide useful insights into PD/OO intentions to leave and what actions might be taken to avoid the turnover.

TABLE 1
SURVEY OF IMPORTANCE/PERFORMANCE
PROFESSIONAL DRIVERS
 (All Participants, n = 862)

Offering (Attribute)	Importance Mean (1-5)	Performance Mean (1-5)	IP
Adequate Driver Compensation	4.71	3.12	HL
Informed About Issues/ Changes	4.44	3.63	
Solving Drivers Problems Promptly	4.72	3.20	HL
Providing Competent Dispatchers	4.75	3.36	HL
Treating Me With Respect	4.76	3.42	HL
Honest With Me	4.83	3.27	HL
Providing Adequate Training	4.67	3.75	
Providing Newer Equipment	4.50	3.46	
Providing Adequate Home Time	4.71	3.27	HL
Strong Supervisor Communication	4.53	3.42	
Providing Continuous Training	4.37	3.77	
Indicating Clear And Fair Work Rules	4.57	3.58	
Providing Advancement Opportunities	4.49	3.25	HL
Let Me Make Some Critical CRM Decisions	3.95	3.19	
Indicating Clear Hiring Expectations	4.38	3.49	
Providing Respectful Dispatchers	4.70	3.43	
Company Shows Me Loyalty	4.71	2.92	HL
Provide Stress Relief Workshops	3.90	2.82	

Notes: Scales range from 1-5, where attribute is more important to the professional driver (PD) as the value approaches 5. In addition, the driver perceives that the company is doing the best job they can in providing for the attribute as the value approaches 5. IP reflects the Importance Performance relationship. HL indicates than a PD sees this issue as important but underserved by the company.

TABLE 2
SURVEY OF IMPORTANCE/PERFORMANCE
OWNER OPERATORS
 (All Participants, n = 292)

Offering (Attribute)	Importance Mean (1-5)	Performance Mean (1-5)	IP
Adequate Compensation	4.76	2.83	HL
Informed About Issues/ Changes	4.71	3.24	HL
Solving Owner Operator (OO) Problems Promptly	4.75	3.04	HL
Providing Competent Dispatchers	4.79	3.22	HL
Treating Me With Respect	4.80	3.20	HL
Honest With Me	4.85	2.85	HL
If applicable, providing Adequate Training	4.53	3.70	
Providing Newer Equipment	4.38	3.96	
Providing Adequate Home Time	4.63	3.66	
Strong Supervisor Communication	4.45	3.38	
If applicable, providing Continuous Training	4.23	3.86	
Indicating Clear And Fair Work Rules	4.63	3.12	HL
Providing Advancement Opportunities	4.32	2.82	HL
Let Me Make Some Critical CRM Decisions	4.05	2.80	
Indicating Clear OO Expectations	4.50	3.05	HL
Providing Respectful Dispatchers	4.74	3.16	HL
Company Shows OO Loyalty	4.74	2.64	HL
Provide Stress Relief Workshops	3.63	2.37	

Notes: Scales range from 1-5, where attribute is more important to the owner operator (OO) as the value approaches 5. In addition, the OO perceives that the company is doing the best job they can in providing for the attribute as the value approaches 5. IP reflects the Importance Performance relationship. HL indicates that an OO sees this issue as important but underserved by the company.

TABLE 3
I/P STRUCTURE AND RESULTANT MANAGERIAL PRIORITY FOR CHANGE AND
AFFECTING INTENTION TO LEAVE

Importance (I)	Performance (P)	Priority	Change
Mean Score	Mean Score	(Possible Resource Allocation)	
High	Low	High	Attributes to Improve
Low	Low	Possible Reallocate	Attributes to Question
Low	High	Possible Reallocate	Attributes to Deemphasize
High	High	Continue	Attributes to Maintain (examine effect)

The results from this study show the research provides some interesting perspectives for the industry. The first perspective is that companies seem to use a self-fulfilling prophecy as to what motivates drivers. These results indicate management does a poor job of understanding the expectations and motivations of the PDs and the OOs in their fleets and a somewhat poorer job of actually performing up to drivers' expectations concerning very critical issues. The second perspective seems to indicate that companies do not understand retention from the drivers' perspective and throw resources at the wrong issues to try to retain them. In many instances, companies believe that their retention rates are better than the competitors, so they are somewhat shocked when they find out otherwise. The third perspective is the value to perform this simple quizzical approach to maintain driver satisfaction-a sort of Driver/Management audit approach. Used on a periodic basis and coupled with a longitudinal data base of results, the resultant retention data could enable a company to develop their own –if then– model. The simplicity of the modeling makes the technique both driver and managerial friendly. In addition, the quickness of data collection, using Internet, tablet, and even smart

phone data collection coupled with the simplicity of the analysis make this technique invaluable in a time of driver shortage and difficulty of PD/OO replacement.

Although Table 3 illustrates the direction of resource allocation, it does not spell out how many resources would be needed to induce PD or OO change of perception about an issue. The guidelines are more suggestive that a change in resources would affect perception and enhance retention. Since the guidelines are suggestive, it is important that an individual company continually monitor their PDs and OOs and experiment with allocations based upon their philosophy of management. Resources available from the LL and LH conditions should be allocated to the critical HL category and the maintenance of the HH categories. If there is an impact, then management could develop a more predictive model using actual retention data resulting from the IP changes.

TABLE 4
IP of PROFESSIONAL DRIVERS WITH A HIGH INTENTION TO LEAVE
 (High Intent to Leave, n = 97)

Offering (Attribute)	Importance Mean (1-5)	Performance Mean (1-5)	IP
Adequate Driver Compensation	4.72	2.59	HL
Informed About Issues/ Changes	4.29	3.45	
Solving Drivers Problems Promptly	4.60	2.85	HL
Providing Competent Dispatchers	4.69	2.87	
Treating Me With Respect	4.63	2.86	HL
Honest With Me	4.77	2.79	HL
Providing Adequate Training	4.44	3.51	
Providing Newer Equipment	4.46	3.33	
Providing Adequate Home Time	4.69	2.88	HL
Strong Supervisor Communication	4.41	3.13	
Providing Continuous Training	4.14	3.49	
Indicating Clear And Fair Work Rules	4.47	2.99	
Providing Advancement Opportunities	4.42	2.68	HL
Let Me Make Some Critical CRM Decisions	3.95	2.76	
Indicating Clear Hiring Expectations	4.31	3.49	
Providing Respectful Dispatchers	4.58	2.88	
Company Shows Me Loyalty	4.64	2.40	HL
Provide Stress ReliefWorkshops	3.95	2.50	

Notes: Scales range from 1-5, where attribute is more important to the professional driver (PD) as the value approaches 5. In addition the driver perceives that the company is doing the best job they can in providing for the attribute as the value approaches 5. IP reflects the Importance Performance relationship. HL indicates than a PD sees this issue as important but underserved by the company.

TABLE 5
IP of OWNER OPERATORS WITH A HIGH INTENTION TO LEAVE
 (High Intent to Leave), n = 52

Offering (Attribute)	Importance Mean (1-5)	Performance Mean (1-5)	IP
Adequate Compensation	4.82	2.19	HL
Informed About Issues/ Changes	4.74	2.57	HL
Solving Owner Operator (OO) Problems Promptly	4.68	2.21	HL
Providing Competent Dispatchers	4.76	2.41	HL
Treating Me With Respect	4.84	2.45	HL
Honest With Me	4.92	2.30	HL
If applicable, providing Adequate Training	4.64	3.30	
Providing Newer Equipment	4.29	3.65	
Providing Adequate Home Time	4.76	2.95	
Strong Supervisor Communication	4.54	2.76	
If applicable, providing Continuous Training	4.39	3.73	
Indicating Clear And Fair Work Rules	4.67	2.86	
Providing Advancement Opportunities	4.23	2.05	HL
Let Me Make Some Critical CRM Decisions	4.18	2.35	
Indicating Clear OO Expectations	4.46	2.43	
Providing Respectful Dispatchers	4.77	2.44	
Company Shows OO Loyalty	4.69	2.03	HL
Provide Stress Relief Workshops	3.72	2.00	

Notes: Scales range from 1-5, where attribute is more important to the owner operator (OO) as the value approaches 5. In addition the OO perceives that the company is doing the best job they can in providing for the attribute as the value approaches 5. IP reflects the Importance Performance relationship. HL indicates that an OO sees this issue as important but underserved by the company.

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