An Analysis of the Sales Cycle: A Case of a Cloud-Computing US MNC

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Abstract:

This paper investigates sales techniques used during the sales cycle at a leading global provider of mobile workforce solutions for service-based business of all sizes. At the multi-national corporation, a publicly traded company, business solutions are delivered as software-as-a-service (SaaS). This study focuses on "Enterprise" customers, fleets of over 100 vehicles, and examines how leads are converted to opportunities and opportunities to sales. Characteristics of the customer, such as, aforementioned fleet size, SIC code, number of employees, region, and annual revenue are examined in an effort to tailor the marketing process when targeting large customers. Additionally, the study looks at new business, retention of existing business, and trial programs aimed at increasing revenue and delivering customer service at this firm. Using a custom data set from the company's customer service platform salesforce.com, the results suggest that customer service plays an integral role in the retention and development of new business.

JEL classification: D80

Key Words: Cloud Computing, SaaS, Sales, leads, and opportunities

1.0 INTRODUCTION:

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The web-based form of information technology (IT) *cloud computing* is defined as "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." (Mell and Grance, 2009) This is made possible by inexpensive and powerful processors combined with high-bandwidth availability across networks.

Cloud Computing is revolutionizing the distribution of value across the entire IT industry. Traditionally, firms were characterized by the sale of hardware, data-base engines, operating systems, business applications, or customer relationship management tools, however through the cloud, all these components can be accessed online as a service. (Grigoriou et al., 2013) The *cloud* is therefore accessible, on-demand for end-users, and available across a broad network.

The rise of the *cloud computing* industry represented a significant threat for both the IT industry and firms. Companies that were slow to adapt to the platform shift from a product to service-oriented strategy put themselves in a vulnerable position. At the infrastructure level (Infrastructure-as-a-Service, IaaS), *cloud computing* helps achieve higher utilization rates making services available to a more dispersed client base. For developers, the *cloud* allows users to launch applications online, with limited to no knowledge of the intrinsic hardware. Organizations focused on software development are frequent users of the Platform-as-a-Service (PaaS). The final layer, Software-as-a-Service (SaaS) provides software through a combination of services, and is changing the way that end-users "perceive and use software applications." (Grigoriou et al., 2013)
This is a radical departure from installing software on local servers or computers. Examples of SaaS' are Google Docs (now Google Drive), Gmail, Microsoft Software Plus Services (office apps), Salesforce.com, and Netsuite.

For firms the value of this development in information technology lies in the fact that since applications are now being run off web servers the *cloud* allows for a greater variety of users and user interfaces. Overall, the computing experience can be defined as "smaller, more portable, and more interactive." In turn, the *cloud* makes businesses "more adaptable, interconnected, and specialized." (Grigoriou et al., 2013) What were formerly capital expenditures are now operational expenditures. Firms have the ability to rely on third party sources as opposed to the construction and maintenance of traditional IT infrastructures. This adaptability has been sought out by a number of startups where the *cloud* was extremely successful. Entrant firms have the ability to scale upwards while existing firms have the ability to scale downwards; the cloud allows companies to consume exactly what they need. In a broader economic-sense, the cloud is working to negate *economies of scale*.

According to Bessemer Venture Partners' Cloud Index, there are now 25 public companies in the cloud computing market valued at more than $1 billion. The index tracks 42 public *Cloud Computing* Companies. When the index was first made available in 2013, the top 30 companies were worth $100 billion, in 2015 that number has grown to $155 billion.

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From a startup in 2004, to a 2015 market cap of $1.36 billion, this Multi-National Corporation has taken advantage of the interconnectivity and adaptability of the *cloud* focusing on providing solutions for the telematics industry in the form of GPS fleet tracking.

This study will attempt to analyze the underlying conditions that increase the probability of the conversion process. Due to an extensive list of sales information, the analysis in this paper lies with the highest valued customers. Fleet size is the key variable in this examination, with a minimum value of 500, and a maximum value of 16,000. These customers represent an additional opportunity to add peripherals to the basic service, and retention and acquisition of these high-valued firms infuses the MNC with capital. In addition, customer data such as annual revenue, number of employees, duration, and region are carefully analyzed through a number of statistical techniques including regression analysis.

The rest of the paper is organized as follows: Section 2 presents an interview with a marketing team member from the MNC. A brief literature review is provided in Section 3. In Section 4 the empirical model is outlined. Finally, Section 5 presents and discusses the empirical results. This is followed by a conclusion in Section 6.

2.0 Trend:

2.1 Interview:

An interview was conducted with a member of the firm's marketing team in order to learn more about the sale cycle at this particular firm. The interviewee started by making the distinction between internal and external points-of-contact. With internal contacts, the customer has already expressed interest in the product, which makes the sales process potentially more successful.

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External contacts, on the other hand represent more of a challenge for the sales force, as contact is initiated by the salesperson.

These two types of points-of-contact evolve into leads, defined by the marketing professional as, "a direction that someone has pointed you in." Based on region and fleet sizes, leads are assigned to the salespeople from the marketing team. This division of labor allows salespeople to focus on similar customers and rely on past marketing decisions to guide their effort.

The software-as-a-service (SaaS) system that this firm allows all these efforts to be documented. From the initial creation of a "case," to a successful sale or to a failed opportunity salespeople can record their communication with a customer, gather data on potential customers, and record the duration of the sales cycle. The cloud aspect of this software allows users to access "cases" remotely and on a number of devices. In addition to this, the software also generates reports for guiding the sales effort. The interviewee pointed to this software as, "the most useful tool for my job."

After the first round of communication, successful leads are turned into opportunities. This process is the focus of this study. Opportunities come in two varieties; first the opportunity to create new business, and secondly the opportunity to retain business, termed "renewals." During this process, pricing and contract terms are discussed, as salespeople try to find the right match for the customer's needs. Opportunities that are "won," do not represent the final step in the process of delivery the product to the customer, however, it does represent the final activity in the salesperson's job. From the salesperson, schedulers are the next stage in the sales cycle. Schedulers coordinate activity with customers and third-party installers to outfit devices in customer's vehicles.

With a new employee now handling the "case," it is crucial that all information gathered about a customer can be accessed by a different individual. The marketing department puts an emphasis on, "carefully crafted cases that are frequently updated and serve to paint a picture of the customer and the customer's needs."

Timing plays an integral role in this process, and this study's analysis will look at how this variable affects the overall success of the sales cycle. From the time when the customer is first communicated with up until an opportunity is either lost or won, data is collected documenting the accounts duration. As time passes customers are free to explore competitor products and alternatives to meet their needs of fleet management. Perceived service value ultimately determines whether or not the customer adopts the product.

2.2 Cloud Computing Trends

Figure 1 shows the market fluctuations of 42 publicly traded *Cloud Computing* firms as compiled by the Bessemer Venture Partners (BVP) Index. In BVP's own words, "we believe that *Cloud Computing* is the most important trend in the software industry of the decade." (BVP, 2015) The firm defines the *Cloud Computing* industry as firms that focus on the Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), and Infrastructure-as-a-Service (IaaS) levels.

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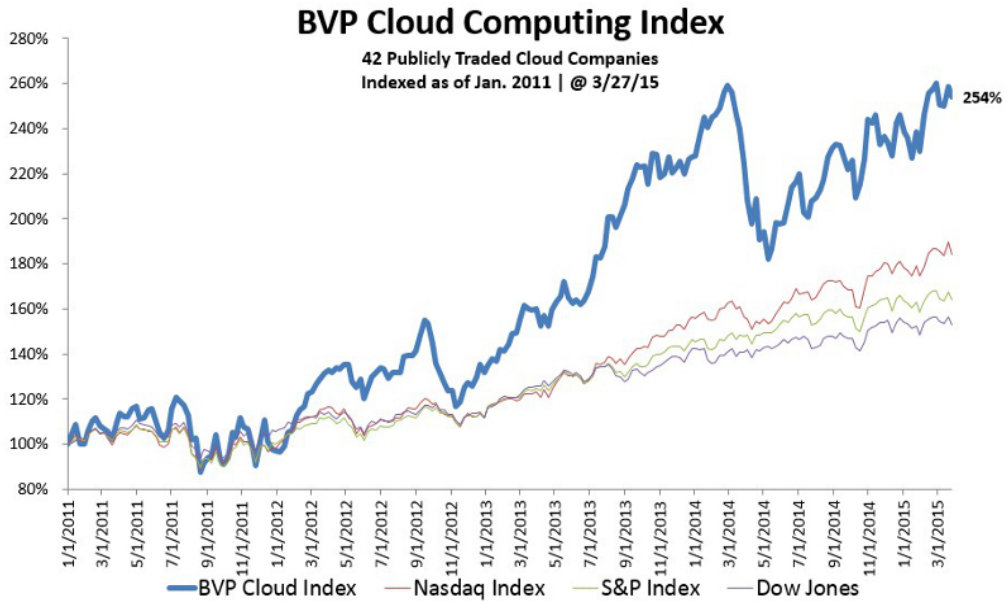
Figure 1: Bessemer Venture Partners (BVP) Index



Source: Bessemer Venture Partners

Firms that have adopted this technology have the ability to start small and increase hardware resources based on their needs. This "scalability" is what many firms seek out through their use of the *Cloud*. In addition to scalability, Brunette and Mogull (2009), characterize *Cloud Computing's* emphasis on elasticity, economies of scale, abstract entity, accessibility to software, device and location independence, high reliability, improved security, efficiency and utilization, and constant performance monitoring.

In terms of scalability and elasticity, *Cloud* resources can be delivered in real-time on a self-service basis, making the *Cloud* dynamic and tailored to customer needs. The realization of economies of scale lies in the conversion of capital expenditures to operational expenditures. Furthermore, the economies of scale depends on the three levels of sharing of the virtual and physical resources. First, *public clouds* where services are offered over the internet in a self-service, pay-per-use methodology. *Amazon.com* is an example of a consolidated large-scale public cloud. Next, *hybrid clouds*, similar to traditional hosting IT capabilities are provided by service providers. However, with the *Cloud* there is more flexibility regarding pricing and usage. Finally, *private clouds*, standardization of infrastructure characterizes the service where computing capabilities are shared within a single firm.

Another feature of *Cloud Computing* is abstract entity where customers outside the cloud are delivered services on demand. This feature relies on accessibility to software, through *Cloud Computing* machines and by extension users can use any internet connected device to interact with the *Cloud*. Regardless of the users location or device used, device and location independence allow users to access systems using a web browser with minimal hardware requirements.

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High reliability and improved security characterize *Cloud Computing* due to the centralized storage across multiple cloud resources. This centralization allows firms to devote more resources to security issues. Additionally, data is stored and protected against potential crashes. However, the gains of accessibility represent a tradeoff in the complexity of security. With data distributed to a greater number of devices and across a wider area security issues become more complicated.

Improved efficiency and utilization allow for more investment in security and solving the complex issues regarding data protection. The savings that firms realize through these aspects can be redistributed to better control the customer's network. Furthermore, through the use of web services as the system interface *Cloud Computing* allows for constant performance monitoring, reducing the costs and inefficiencies of business. Finally, maintenance represents another improvement of the *Cloud*, due to the fact that upgrades need not be installed to each user's computer, and can be accessed instantaneously. (Victor and Eugen, 2011)

Founded in 2004, this multi-national corporation (MNC) is a leading global provider of mobile workforce solutions for service-based business of all sizes delivered as software-as-a-service (SaaS). The company's solutions enable businesses to meet the challenges associated with managing local fleets. By providing visibility into vehicle location, fuel usage, speed and mileage, among other insights for business the services aim to improve the productivity of their mobile workforces. Solutions based on real-time business intelligence in addition to historical vehicle and driver behavioral data allow managers to realize cost-saving in an area that typically comprises a large percentage of their expenses.

This MNC begins each sales cycle with the classification of "lead direction." Outbound leads originate from outside the firm per customer inquiry. Inbound leads are generating internally within the firm. For the purposes of this study only inbound and outbound leads are taken into consideration. See Figure 2 for a distribution of lead directions based on customer orientation.

Figure 2: Lead Direction

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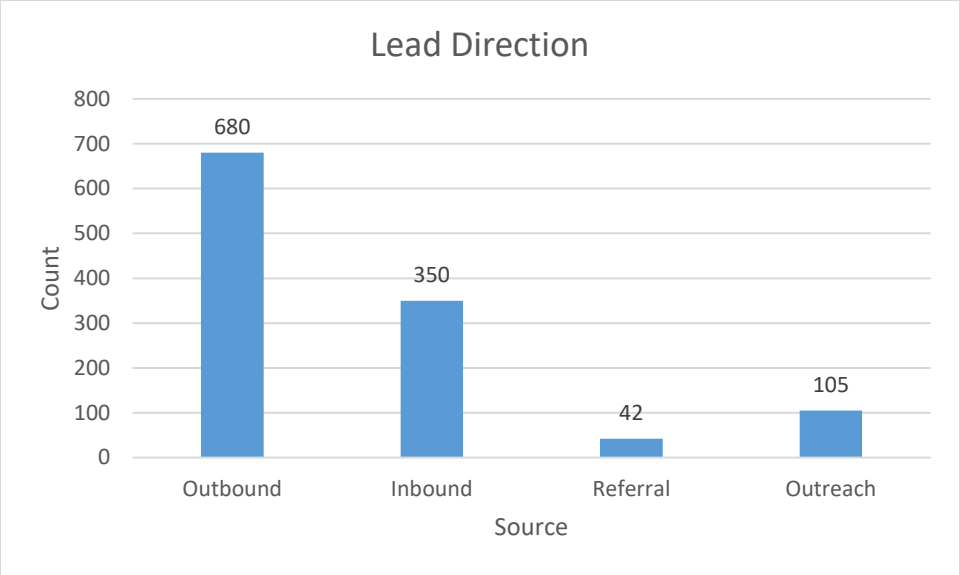

3.0 Literature Review:

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As an essential component of business, sales cycles look to increase the revenue of firms. It is therefore critical that new business is created in addition to the retention of existing customers. According to Hussain et al. (2011) perceived service value is one of the competitive advantage factors and fundamental predictor of customer satisfaction, brand loyalty, and financial performance. While this study focuses on the sales cycle it is also of note that quality of after sales service affects the aforementioned factors. Hussain et al. (2011) goes on to say that this is largely dependent on the organization as some feel that this is a wastage of resources.

According to Maxim (2013) an organization must understand how its clients define value. The study goes on to suggest that the role of the firm is no longer to produce and distribute value but to support customer's processes of value creation. Business solutions provided by the MNC occur at the point where the customer has already made a capital expenditure, and is looking to create value in the form of cost-reduction. Rajagopal (2008) goes on to say that investments in certain technologies offer a competitive edge. The Service-as-a-Software (SaaS) that the MNC packages aims to give this competitive edge to customers.

In order to implement a customer acquisition plan the first activity is prospects identification (Filip and Voinea, 2012). The marketing and sales force team coordinates these activities through the market segmentation process of buyers' qualification determining the customers' specific needs and payment capacity. In the case of this MNC these processes occur during the lead process.

The acquisition of new customers involves specific activities of prospects, identification, communication channels selection, and choice of the adequate supply for targeting potential customers (Filip and Voinea, 2012). It is up to the organization's discretion on how to initiate contact after the qualification stage is completed. The organizational behavior concept of *media richness* guides the marketing department in their communication with customers, whether that be by phone, mail, e-mail, or direct contacts with the sales force.

From the customer acquisition plan, logical processes of customer retention and customer relationship development follow. According to Filip and Voinea (2012) a retention strategy aims to maintain relationships with a highest proportion of the current customer base by decreasing their migration rate. A study by Maxim (year?) relates retention rates to customer satisfaction, which in turns depends on how customers perceive the value of the company's offer.

According to Filip and Voinea (2012) the relationship development process involves efforts to increase the value of existing customers, without neglecting their satisfaction. As a complement to the service that this MNC provides, peripherals are offered in this effort to increase the value of existing customers. Fuel cards and PTO's (Power Take Offs) are bundled in order to augment the basic Software-as-a-Service. Filip and Voinea (2012) define this as "cross-selling" and the clients are derived from the current database. It is critical that in these attempts the sales force leverage information that they have already collected in regards to the customer in order to personalize the sales experience and ultimately increase the chances of making a sale.

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Maxim (2013) goes on to suggest that in the case of complex goods and services, which accurately describes the service provided by this MNC, one available solution is that of "solution offerings"- not only selling the central product itself, but a complete package which includes all complementary products and services associated with financing, installation, and operation. Customers who are attracted to this "bundle" will experience high switching costs, which represents customer retention for the MNC. (Egan, 2008)

"Up-selling" activities, which seek to replace the current product with a more expensive one from the same category, have been found to have a negative effect on the level of customer trust in a certain supplier. (Filip and Voinea, 2012) In order to not strain this relationship, a number of conditions must be met. First, products that are supplied to the customer must be based on a thorough analysis of past individual transactions and of customer demographics. Furthermore, products must be customized, adapted to customer segments or even customer requirements. Next, channels that are used for customer interaction should not overlap, in the sense that customers receive several offers from the same organization. Finally, consistency in communication should guide the marketing objectives of the firm. (Filip and Voinea, 2012)

Cronin et al. (2000) found that the process through which a service is delivered determines the quality of service and is pivotal for the customer to gather his notion about perceived service quality. Hussain et al. (2011) has found that the culture of companies delivering outstanding services reflects the performance and receptiveness of the employees who make up this customer interaction. The study suggests that the training of the customer service staff has financial repercussions for the whole firm. Furthermore, the focus on training with a connection to the understanding of organizational culture and policies and their role in the delivery of the service will increase their effectiveness in the achievement of improved quality of service. (Hussain et al., 2011)

In addition to the training of customer service personnel, Rajagopal (2008) suggests that "high technology integration" in manufacturing the consumer products yields great rewards in the customer's perception of value, and in turn, the competitive edge of the firm and the firm's image in the global marketplace. A market leader need not be complacent as competitors match strategic moves and use technology to develop more potent products. (Rajagopal, 2008)

4.0 Data and Empirical Methodology:

4.1 Data

This study uses cross-sectional data from 2014. Data were obtained from the Software-as-a-Service database Salesforce.com. Due to an immense data set, customers were segmented by fleet size, which has a direct correlation to the service contract issued by the MNC. In this study, the minimum value of fleet size was 500 and the maximum value was 16,000. Summary Statistics for the data are provided in Table 1.

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As of December 31, 2014, the multi-national corporation (MNC) served over 25,000 customers, with approximately 552,000 subscribed vehicles worldwide. Barclays and Bank of America Merrill Lynch acted as joint book-running managers for the initial public offering through the New York Stock Exchange on May 10, 2012. The initial pricing of the 7,812,500 shares of its common stock was set at $17.00. Since the IPO the company has expanded operations into Australia and Netherlands, and seen the stock price rise to a 52-week high of $46.01.

Table 1 Summary Statistics

Variable	Observation	Mean	Std. Dev.	Min.	Max.
CON	549	0.1165	0.3212	0	1
REV	70	948,000,000	2750000000	3,722,000	18,000,000,000
EMP	129	2657.5040	9268.7550	0	75,000
FLEET	549	2496.3620	5840.6160	500	80,000
DUR	549	269.3620	114.7032	0.0396	446.4417
IB	549	0.4244	0.4947	0	1
IBD	549	107.4960	139.1001	0	435.1889

4.2 Empirical Model:

Following Hussain et al. (2011) this study adapted and modified a model to analyze the conversion process at the "Cloud-Computing" Multinational Corporation. The model can be written as follows:

$$CON_i = \beta_0 + \beta_1 TOTF_i + \beta_2 DUR_i + \beta_3 NOEMP_i + \beta_4 IB_i + \beta_5 REV_i + \beta_6 IBD_i + \varepsilon i$$

CON_i is the dichotomous variable that represents if a lead is converted into a successful sales opportunity for account i. CON_i is used as an endogenous variable. The sales cycle begins with a lead source where potential customer accounts are populated in the Software-as-a-Service (SaaS)

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program Salesforce.com. Customer account data is collected and stored in the *Cloud* feature of Salesforce.com. This study focused on accounts with a total fleet of 500 to 16,000 vehicles. These accounts represent the highest valued customers for the MNC. Data can be sorted by "lead direction" and "Coast Center/Region," this segmentation directs and guides subsequent marketing "touches." Through different sales channels and communication strategies leads are then converted into an opportunity. Timing during this process is integral and plays a role in this study through the independent variable, duration, DUR_i. Most studies rely on customer satisfaction surveys, however this study was crafted around a unique data set that the MNC made available for research purposes.

Independent variables consist of six variables obtained from Salesforce.com. Appendix A and B provide data source, acronyms, descriptions, expected signs, and justifications for using the variables. First, $TOTF_i$ (total fleet size of the account i) represents the number of vehicles that will be outfitted with the Software-as-a-Service. Second, $NOEMP_i$ (number of employees of the account i) signifies the size of the firm looking to adopt *cloud-computing* solutions. Third, REV_i (total revenue of the account i) is the representative size of the firm looking to purchase the Software-as-a-Service from the MNC. The first three variables all represent characteristics of firms looking to do business with the MNC. Due to data limitations, the study focused on the largest accounts of the MNC, with fleet size from 500 to 16,000.

Forth, DUR_i represents the duration, in number of days, between an initial sales inquiry and the most recent sales touch. Fifth, IB_i is a dichotomous variable that signifies the origin of an account. An account with an inbound orientation gives the variable 1, while an account with an outbound orientation gives the variable 0. Inbound accounts are generated by the customer reaching out to the MNC with an initial sales inquiry. Outbound accounts are generated by the sales and marketing team reaching out to potential firms in order to inform them, and subsequentially sell them the product. Finally, IBD_i is an interaction variable added to the model in order to determine the timing of the account depending on the orientation, whether that be outbound (0) or inbound (1).

5.0 Empirical Results:

The empirical estimation results are presented in Table 2. The empirical estimation shows that four variables are significant in the conversion process at the MNC.

	CON
CONSTANT	0.3363 (0.1201)
EMP	$7.67 * 10^{-6}$** $(3.13 * 10^{-6})$
REV	$8.69 * 10^{-11}$*** $(2.31 * 10^{-11})$

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FLEET	.00001 (0.00001)
DUR	-0.0009*** (0.0003)
IB	-1.2262** (0.5368)
IBD	0.0358 (0.0022)
R^2	0.4898
F-Statistics	7.04
Number of Observations	51

Note: ***, **, and * denotes significance at the 1%, 5%, and 10% level respectively. Standard errors in parentheses

The REV_i variable is significant at the 1% level, which indicates that the size of the firm and the way they conduct business has an effect on the conversion process at the MNC. While significant at the 1%, the magnitude of the estimate necessitates that a change (increase) in 800 million in revenues make the conversion process 100% more likely. The $NOEMP_i$ variable is significant at the 5% level, and like the *REV* variable, indicates that the size of the firm looking to do business with the MNC has an effect on the sales cycle. An increase in total number of employees by 100,000 makes the conversion process 76.7% more likely. These estimates have crucial implications for accounts the MNC should target and devote more resources to in the sales cycle.

DUR_i is significant at the 1% level, which indicates that timing plays an integral role in the conversion process. The sign of the estimate (negative) signifies that the more time that passes between an initial sales touch and the most recent sales the less likely the conversion will be. Finally, the dichotomous variable, IB_i, has the opposite sign of the predicted result. This indicates that outbound accounts are more likely to be converted into sales opportunities. The interaction variable, IBD_i, while not statistically significant, does indicate that duration plays a role depending on the orientation of the account.

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6.0 Conclusion:

In summary, both the characteristics of the firm looking to do business with the MNC and the timing between when the initial sales inquiry is made to the most recent sales touch are relevant in the sales cycle of the MNC. The results in this paper suggest that the total revenue of the firm and the number of employees a firm employs are the most significant variables regarding firm characteristics. Surprisingly, the orientation of a sales account is backwards from intuition. The study predicted that the orientation variable, *IB*, would be positive if a firm reached out regarding the products offered by the MNC. However, estimates produced a negative result implying that the MNC is quite efficient in generating marketing data regarding the acquisition of new customers.

The study has important policy implications for the marketing efforts of the MNC. First, the marketing data used by the MNC to generate acquisition of new customers, in the form of *Outbound* accounts, is more predictive of a successful conversion process than inquiries made by external firms. In order to leverage this strength, top marketing and sales personnel should be

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assigned to *Outbound* accounts, leaving the less likely *Inbound* accounts to the remaining personnel. Second, *Duration* was found to be significant at the 1% level, and presents a crucial tradeoff for the MNC. Due to the negative sign associated with the variable, the longer an account "sits" on hold the less likely the conversion process will be. However, previous research has suggested that increasing sales touches via communication channels, may represent a nuisance to potential customers. Therefore, the MNC should focus on accounts with an *Outbound* orientation that have large duration windows in order to guide marketing and sales efforts.

Finally, characteristics regarding the size of potential customers, in the form of total revenue and number of employees of the firm, have positive implications for the MNC. Due to the fact that both variables were found to have a positive sign, the larger the firm in question the more likely the conversion process will be. This has a large effect on revenues for the MNC, suggesting that the bigger the contract in question the more likely the MNC will close on it.

When it comes to *Cloud-Computing*, the study suggests that bigger firms are adopting the technology and realizing the associated benefits with scalability and improved efficiency. As it is the goal of the MNC to provide customers with on-demand solutions regarding fleet management, the *Cloud* provides the perfect medium for firms looking to turn capital expenditures into operational expenditures.

Appendix A: Variable Description and Data Source

Acronym	Description	Data Source
CON	Lead is converted in sales opportunity for account	Salesforce.com
EMP	Total number of employees for account	Salesforce.com
REV	Total revenue for account	Salesforce.com
FLEET	Total fleet size for account	Salesforce.com

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DUR	Time between first contact and most recent contact for account	Salesforce.com
IB	Direction of lead for account	Salesforce.com
IBD	Captures the interaction between the duration and inbound variable	Salesforce.com

Appendix B: Variables and Expected Signs

Acronym	Variable Description	What it captures	Expected Sign
EMP	Total Employees	Size of the account	+/-
REV	Total Revenue	Value of the potential contract	+/-

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FLEET	Fleet Size	Size of the Software-as-a-Service to be delivered to the customer's account	+/-
DUR	Time between the first contact and the most recent contact	Age of account	-
IB	Lead direction for account	The source of the account	+
IBD	Interaction between the duration and lead direction	If timing differs between inbound and outbound sources	-

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