

UNIVERSIDAD ESAN



Hermes Law – Capstone Experience

In collaboration with:

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Satish & Yasmin Gupta College of Business

MBA
University of Dallas – Irving, USA

**Research project presented in partial satisfaction of the requirements to
obtain the degree of Master in Business Administration by:**

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Tiempo Parcial Trujillo XIII**

September 10th, 2018

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Esta tesis

Hermes Law – Capstone Experience

ha sido aprobada.

.....
Luis Chávez Bedoya (Jurado)

Universidad ESAN

2018

A Dios, por darme la vida y permitirme usar los dones que Él me regaló para salir
adelante día a día.

A mi esposo, Daniel, por ser mi apoyo y motivación para ser mejor, por ayudarme
siempre y confiar en mí.

A mis padres: Rony y Delicia por brindarme su apoyo incondicional. Por luchar
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sacrificio.

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Estefany Fernandez La Torre

Bilingual MBA, Industrial Engineer with experience in efficiency, productivity, continuous improvement, cost - budget and management control in the United States and Peru. I consider myself a responsible, proactive, empathic, goal-oriented person, with a positive attitude towards work and towards life. I am very analytical and detail-oriented. I easily adapt to change and to learning new concepts and methodologies.

PROFESSIONAL EXPERIENCE

Christus Health — Irving, Texas. USA

Healthcare system with presence in the United States, Mexico, Colombia and Chile.

Buyer II

September 2018 – Until Now

Reporting to and under the authority of the Manager, System Procurement, the Buyer II provides assistance throughout the department as needed to maintain an adequate supply of merchandise for the supply chain. Obtains materials, equipment or supplies at lowest cost consistent with required quality, quantity and availability. Actively researches and develops new sources of supply and/or recommends possible substitute materials.

International Supply Chain Intern

May 2018 - August 2018

- Cleaned and organized master data for international item master project.
- Uploaded Spend Data from Mexico, Colombia and Chile into Microstrategy (BI tool), also developed multiple reports and graphics as requested.
- Developed analysis, graphs and reports in Excel for the International Supply Chain kpi's dashboard.
- Attended training and helped implement new analysis tools selected by International Operations (SAP Ariba).
- Assisted with current International Operations projects as needed.

Vlacar Sac — Chimbote, Perú.

Manufacturing company dedicated to produce fish conserves, fish meal and fish oil.

Manufacturing Cost Controller

September 2012 - July 2017

- Prepared the annual Budget of Production's Cost of various types of fish conserves, fish meal and fish oil.
- Controlled and monitored compliance with costs and budgets of raw materials, direct and indirect inputs based on general procedures, to identify trends and deficiencies.
- Implemented projects or improvements related to cost reduction, information flow, process redesign, and internal audit processes.
- Supported the Administration and Operations Management.

EDUCATION

ESAN GRADUATE SCHOOL OF BUSINESS 2015 - 2018

Maestría en Administración de Empresas

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EXECUTE SUMMARY

The following report is the combined research efforts done by the 2018 Spring University of Dallas Capstone Project Team. This report serves as a guideline to assist Hermes Law company to overcome challenges regarding pricing and marketing facing the industry.

As part of the Double Degree program within Esan University and the University of Dallas, I was a participant of this Capstone Team. The principal objective of this work was to research the specific Industry and advise Hermes Law in regards of a problem that they were facing at the moment. Hermes Law desired to have an innovative way of pricing their services and we had several reunions with them to fully understand what they were expecting as our Capstone Client.

To start, the Capstone Team executed primary and secondary analysis in the Legal Industry. After gathering and analyzing all the relevant information, we dedicated various weeks in developing attractive models to cover the expectations and needs of our client, Hermes Law. Finally, we also developed a marketing strategy to implement and attract clients through emphasizing the benefits of applying our proposal.

CHAPTER I. INTRODUCTION

1.1. Context

Capstone students from the University of Dallas along with Professor Bruce Evans, met with client, Hermes Law to discuss how their industry's billing and pricing practices needed to change and adapt with the changing market. Hermes Law explained the intricacies and problems they face while trying to bill for work completed along with the challenges current billing practices present.

After the initial meeting, the Capstone Team began conducting research using client and industry data with the intent on providing Hermes Law recommendations on how to market and price their services in a new and groundbreaking way. A comprehensive industry analysis was performed, and pertinent information was obtained with respect to how Law firms in the 21st century will need to operate to remain relevant.

On March 5, 2018, a focus group session was performed to further leverage insights around information obtained from the industry analysis. Questions for the panel on the focus group were developed in a way that would bring to light what those in the insurance industry felt were the challenges to current billing measures and potential opportunities for improvement going forward.

The Capstone Pricing Model Team spent several weeks designing various pricing models while testing their capacity to yield results that are congruent with the scope of work statement. The results of these efforts produced a dynamic fixed budget fee model, a difficulty coefficient pricing model, and an artificial intelligence machine learning model. Each pricing model offers a strategy that seeks to provide a more accurate budget/price that may be offered to the customer.

To help market the new pricing model the Capstone Marketing Team created several plans that coincided with the various models. Through continued testing of both the pricing model and the marketing plan, the Marketing Team developed a strategy to market the appropriate pricing model and gain a buy-in from the customer.

Finally, a detailed analysis of the industry was performed through a SWOT analysis and an investigation into Porter's Five Forces. The strengths, weaknesses, opportunities, and threats were evaluated to outline all the factors that could potentially affect the success of the new pricing model and marketing plan. This analysis was done for the benefit of the leadership at Hermes Law to keep in consideration all four areas of these characteristics and be aware of potential risks. A failure to do so could result in Hermes Law making an incorrect decision with respect to their business operations.

The research into Porter's Five Forces gives Hermes Law a guideline to analyze the depth of competition in business. This analysis helps by detailing the five forces through indicating the competitive nature and attractiveness of the industry in connection to profitability.

The following report provides in-depth information on the topics referenced thus far. All areas covered in this report were utilized in creating final recommendations by the Capstone group, which align with the mutually agreed upon scope of work signed by Hermes Law on February 2, 2018.

1.2. Scope of Statement

The goal of this effort is to create a pricing model and develop a strategy to sell this model while gaining buy-in from customers.

1.3. Project Objectives

- Research the Industry for Legal Services Billing Models.

- Develop a Value-Based Billing proposal for Hermes Law.
- Develop a Marketing proposal to implement the new Billing Model.

CHAPTER II. INDUSTRY ANALYSIS

2.1. Customer Experience

Law firms must adapt to the radically changing industry to maintain precious market share. The relationship business model currently driving new business within the industry will weaken as customers move toward firms offering effortless experiences. Firms able to connect with clients on their terms will gain competitive advantage.

Along with the customer experience, law firms must fully understand their key performance indicators and leverage insight on how they compare to competitors. Law firms must start operating as a business while providing the best customer experience. The key to success will be through leveraging key data and executing to customer expectations while maintaining productivity and profitability.

According to Newton (2017), the highest-performing law firms will separate themselves along two dimensions: The client-facing dimension and the inward-facing dimension. The client-facing dimension will focus on developing transparency while providing the effortless experience. The inward-facing dimension will focus on utilizing key performance indicators to drive efficiency and profitability for individual firms and their clients.

2.2. Client-Facing Dimension

Moving forward customers will be unwilling to withstand difficult communication from law firms pertaining to inaccurate pricing or case life cycles that go past expected ranges. The current perception with law firm communications is that

they are slow providing responses to client inquiries. Law firms willing to provide accessibility and transparency will gain client's trust along with their business.

Additional client-facing opportunities exist in the ability to accurately price legal services. Currently clients receive quotes or bids that are attractive in the negotiation phase, which later become inflated over 40% in some cases. These instances compound client frustrations and add to the friction between law firms and their clients.

Another pain point for clients is the varying life cycle their cases take before being resolved. Too often cases draw out longer than the anticipated range from law firms. Understandably, this is often out of the control of law firms; however, law firms have the responsibility to communicate clearly and often. Failure to do so will likely increase friction and prohibit growth.

Law firms will need to maintain transparency and keep their clients informed throughout case life cycles to promote healthy client to firm relationships. Better communication when unexpected price increases happen will be paramount. Customers have indicated that they understand the complexities of legal cases; however, they want to be informed during the entire process.

To help foster open and constant communication, clients have expressed the desire to have client portals, which may be accessed through their contracted law firm's websites. The portal would serve as a link between the law firms and the client, where they may receive timely updates to their case status and billing matters. A portal would serve as great mode of transparency and help promote an effortless experience for the client.

2.3. Inward-Facing Dimension

The inward-facing dimension would showcase firms willing to continuously monitor and benchmark key performance indicators against industry standards. These

efforts would help to optimize internal processes and achieve operational excellence (Newton, 2017). This mindset will be valuable to bring law firms willing to change into the future.

Law firms must leverage data in to achieve high operational performance and drive profitability. This competency will be paramount to leverage utilization rates, realization rates, and collection rates, which drive productivity and profitability. Law firms must understand their internal data and what it is telling them. Thorough tracking of key performance indicators is necessary if law firms are going to operate like businesses.

2.4. Alternative Fee Arrangements

Research on fee structures suggests a large percentage of law firms are in favor of Alternative Fee Arrangement (AFA) when compared to an hourly billable rate. Research also indicates law firms and clients may benefit with AFA. Developing and implementing AFA requires careful due diligence regarding law firm's own costs and thorough knowledge of client comfort.

AFAs may work for any firm ranging from big or mid-size clients with steady streams of litigation. There is risk that AFA may not work for smaller clients who have highly variable workloads or infrequent litigation.

From the perspective of many clients, hourly billing often incentivizes inefficiency because lawyers are paid based on how much time they spend on a case versus outcome or performance. According to VanPuymbrouck & Kurtzman (2013), the top 200 law firms favor AFAs. Two specific fee alternatives noted were fixed fee arrangements and contingent fee arrangements. Fixed fee arrangements have numerous hybrid models that satisfy both large and small-scale groups and include pure economics of cost control and performance.

Many law firms and legal departments have started the process of migrating away from the hourly billing model. However, to embrace this new change firms must train their legal staff to adapt to this new methodology. Legal staff will need new ways to manage the work while keeping their limits within budget. New databases and cost-control monitoring software may be necessary to efficiently manage and plan new budgets going forward.

Overall, the focus should always be on the customer service relationship. The relationship between the firm and client must be built on service and value. Both parties may benefit through transparent relationships built on mutual and cooperative communication along with openness in the decision-making process (Vassallo, 2012).

Projections regarding a strong future of AFAs is underscored by respondents' answers to questions regarding new fee structures. According to Vassallo (2012), 55% of surveyed legal departments expect the use of AFAs to increase, while 7% expect a decrease. Further bolstering this claim is the fact that 74% of law firms also believe AFA use will increase with only 2% expecting a decrease in AFA usage.

The biggest challenging of adapting AFAs for firms will be gathering, governing, and analyzing data. According to Vassallo (2012), most legal departments are using online billing for planning, managing and tracking their alternative fees, which are more efficient and effective than their previous tracking tools. However, it also noted that online billing does not facilitate alternative fees in every case. Therefore, the law firms are primarily using their previous software accounting software for the management of alternative expenses.

Another challenge is that most current billing and timekeeping systems do not back AFAs. However, there are some financial planning software packages that handle

these systems and include functionality for evaluating and managing alternative fees. A few firms, like Goodwin Procter, have managed to develop their own; however, they have struggled to staff these efforts with employees skilled to analyze and manage large data sets.

Software by itself is not adequate for shifting law firms into the future. Both law departments and law firms must execute beyond talk of a need for culture change. Collaboration and the establishment of trust between firm and client are necessary to have AFAs work effectively (Vassallo, 2012).

CHAPTER III. FOCUS GROUP

3.1. Intent

The intent of this focus group was to obtain insight into the insurance industry around legal billing improvements and best practices to complement; a hybrid pricing model; shifting legal billing practices from hourly billing to a hybrid model; identifying best practices and value proposition with the proposed pricing model; and identifying potential barriers in changing industry standards; and to analyze industry concerns regarding barriers with third party billing audit services.

3.2. Participants List

Figure 3.1 Participants List

Resp #	Gender	Level of education	Industry experience	Most closely matches your job title	Level of decision-making authority in choosing legal counsel and over the billing process	How big is your company	Field of insurance	Age
1	Male	Bachelor's degree	18 years	Frontline Manager	Minimal decision-making or influence	Large	Property liability, General casualty, Professional liability, Construction, Premises liability	38
2	Male	Associate Degree	3-5 years	Claims Adjustor	Significant decision-making or influence	Large	General casualty, Worker's compensation	29
3	Male	Some college	3-5 years	Claims Adjustor	Minimal decision-making or influence	Large	All types	33
4	Male	Master's degree	15+ years	Claims Adjustor	Significant decision-making or influence	Large	Property liability	47
5	Male	Bachelor's degree	5-10 years	Claims Adjustor	Minimal decision-making or influence	Small	Property liability, General casualty	58
6	Male	Master's degree	15+ years	Director of Vendor Mgmt	Significant decision-making or influence	Medium	Property liability, General casualty, Healthcare, Professional liability, Construction, Premises liability, Product liability, Transportation	50
7	Female	Master's degree	4 years	Claims Adjuster	Significant decision-making or influence	Large	Property liability, General casualty, Professional liability, Premises liability, Product liability	41
8	Male	Bachelor's degree	5 years	Claims Adjuster	Minimal decision-making or influence	Large	Property liability, General casualty	31

Source: Prepared by the Authors

3.3. Candidate Selection

The focus group demographics consisted of direct front line and leadership experience with defense legal counsel having 4 to 18 years of experience in the industry.

The average range of experience represented by the panel was 12.6 years. Industry experience included property; liability; premise liability; general casualty; construction; and health care. Education background consisted of a majority with a bachelors or masters degreed professionals, then two participants with associates degree or some college.

3.4. Question Selection

Engineered questions were constructed with the intent to remove preconceived notions and stimulate a creative conversation. The questions lead to insight into potential process enhancements focusing on legal experience, billing practices, and product offerings.

From the discussion, the Team explored the following: variables; predictive modeling and data/variables utilizing trends regarding Plaintiff Attorney methods; Plaintiff (age, sex, willingness to settle;) geographic location; and the severity of accident risk that the insurance company is willing to take.

3.5. Focus Group Insights

The Team conducted the focus group in a way which lead the group to an open dialog containing creative viewpoints and ideas. This format was helped by removing bias and preconceived notions based on prior experience when evaluating possibilities. The Team gained great insight and perspectives from the focus group.

The Moderating Team started off by asking the group their opinions on flat rate pricing. The initial reaction was a bit negative and they had concerns such as, whether an attorney would dedicate as much time to a case and work as hard if not being billed hourly and how this would affect the relationship aspect of the attorney and insurance

agency. Several members of the focus group were under the assumption that flat rate billing automatically meant one price fits all and were concerned about how variances in each case would be addressed.

Once moderators explained to the group that the pricing model being proposed is not a “one size fits all,” but a dynamic billing system that is evaluated and valued on a case by case basis, it became a dynamic discussion. The group became more positive and open to the idea of alternative pricing strategies and started recognizing and discussing the benefits of an alternative to hourly billing.

One of the focus group members mentioned that they were more comfortable with the term “summarized billing format,” and there was a group consensus that that more accurately described the billing structure. They liked the idea of having a breakdown of costs and budget upfront as opposed to being surprised at the end the case. Every member of the group agreed that at least in some cases, this would be a good billing system if the budget is broken down into detailed sections explaining the costs for each aspect of the case including hours spent and expenses incurred.

When the focus group target was switched to the subject of using a hybrid pricing structure, the group’s reaction became much more positive and they were more open to feedback than they were when discussing flat rate pricing. The group liked the idea of using predictive analytics to evaluate and value cases which allows a firm to gauge their costs and set a budget more accurately up front.

The focus group participants expressed that using a hybrid model with flat rate pricing for certain cases or aspects of a case could be more efficient and effective. Some examples they gave when this would be helpful were; dealing with paperwork, dealing

with mediations and settlements; representatives of a minor when a second attorney is needed in a case involving a child and many other pain points that a hybrid model would alleviate. It was also mentioned that if the law firm planned to use an expert witness, it would be beneficial to have a flat fee already negotiated with the expert based on the severity of the case. They also expressed that having a budget up front makes it easier to decide whether to settle or go to trial.

One of the key takeaways from the focus group was that when implementing and sustaining a new billing structure, it is going to be vital to educate your customers on how the new system works and emphasize how much money it will save them as a company.

Every member of the focus group mentioned transparency or communication in at least one of their answers. The members of the focus group appeared to use transparency and communication as synonyms. The transcript will reveal that even when talking about pricing models and how the insurance company wanted to receive a bill from a lawyer, communication and transparency was mentioned in the answer, although the insurance companies liked communication on their terms.

This does not always mean that a phone call is needed when an email will convey the same information and save the insurance company/law firm time. An example of the insurance desiring communication would be if the bill is going to be higher than what was budgeted for the case. The members of the focus group did not have a problem with the bill coming in higher if they knew the bill was going to be higher (ex. a panel of expert witnesses with an established fix flat rate).

The focus group participants also suggested some data points that would be helpful in determining what fees they would accrue versus the payout the insurance company would have to pay the plaintiff.

Data points referenced were:

- Plaintiff lawyer qualifications
- Discovery length
- Whether there will be depositions
- Whether the plaintiff lawyer will settle before going to trial
- Whether the plaintiff lawyer is an effective trial lawyer
- Any information on the plaintiff (plaintiff zip code, zip code of the accident, age, sex)
- Plaintiff's history in deciding whether to settle or sue
- Previous claim history of the plaintiff
- Plaintiff financial situation

Adding this information into a model will help the defense lawyer more accurately estimate the budget for the case. Predictive analytics are starting to impact how insurance companies interact with law firms regarding law service budgeting. Insurance companies are tracking how much money law firms are saving them compared to what they are being charged. Law firms able to demonstrate value are more likely to be selected than law firms unable to articulate their value.

The focus group participants also expressed that if a law firm is going over budget but producing consistent positive results, they don't mind going over budget if there is transparency and communication if the benefits outweigh the costs. The theme of communication on an ad hoc basis was a recurring theme during the focus group session.

The insurance companies represented in the focus group stressed the importance of developing tools that may help lawyers and insurance companies during a case. This most often was represented as a dashboard with items important to the insurance company relating to the case. This free flow of information would help to drive cost down for both the law firm and the insurance company.

Additionally, the implementation of comprehensive metrics rated high for members of the focus group. The focus group participants stated metrics may help them make good recommendations on whether to use in-house counsel, panel, or non-panel attorneys. The focus group panel also believed metrics would be useful to help determine whether a law firm will stay on the panel or be moved to a non-panel.

Currently insurance companies and defense law firms are in a relationship business. The focus group panel believes the next five years will shift to a more business relationship where results are measured. The days of knowing the executive management team to guarantee cases is coming to an end.

According to the focus group panel, insurance companies want to see performance from the law firms they use. Additionally, insurance companies are trying to limit their exposure in high profile cases; therefore, they are more likely to go with an outside firm that has expertise defending the case. Outsourcing is also starting to be

a trend because law firms cannot specialize in every type of defense needed by the insurance company. These ingredients are being done today so that insurance companies can minimize losses on their bottom line.

The focus group participants stressed that defense law firms wanting to compete going forward will need to embrace open communication with the insurance companies. The modern-day law firm also needs to be doing some form of analytics to help them get more accurate cost results. The focus group also stated law firms may use analytics to the point where they know more details about the plaintiff and the plaintiff's lawyer. Finally, the focus group participants advised that law firms need to be tracking metrics which are mutually agreed upon to fully integrate interests.

3.6. Focus Group Highlights

3.6.1 *Interactive Climate*

- Engaging group with insight into the insurance industry.
- Legal experience and strategic cost containment recommendations.
- Open dynamic group discussion, which expressed value in cost effective methods with legal services and positive response to new pricing strategies.

3.6.2 *Predispositions*

- Found positive reaction to hybrid model of billing with description of favorable views toward predictive modeling.
- Group members responded more positively to the term (suggested by one of the focus group members) "summary of billing," than set flat rate pricing.
- Provided a favorable reaction to summary of billing broken in group tasks such as discovery.

3.6.3 *Reactions to Materials*

- Alternatives to hourly billing were favorable when paired with transparent communication (dashboard or updates when direction of case changes), predictive modeling providing “upfront summary of billing”, and finalized with detailed report findings and activities.

3.6.4 *Responses of Panelists*

- Group values transparent communication, predictive modeling providing for summary of pricing, and cost containment strategies.

CHAPTER IV. PRICING MODEL ANALYSIS

The development of the following pricing models was a result of a collaborative effort from the Capstone Team. Data used to develop each model was provided by Hermes Law early in the project timeline. The following section provides a description of the data and descriptions along with the methodology behind each data model explored during the duration of the project.

4.1. Data Analysis

4.1.1 *Data Description and Highlights*

To help with development of the pricing model, Hermes Law supplied the Capstone Team with a dataset containing 721 cases. The data provided varying levels of information on 41 different case types across 112 clients. Although some records provided all variables in the individual cases, most of the case records contained nulls, which would not produce accurate results for the development of the pricing model.

To mitigate any errors using cases with nulls, the Team removed these records from the dataset and began analyzing the data remaining. The analysis gave the Team insight to the business and helped guide further actions on price model development.

Preliminary analysis of the dataset highlighted the distribution of case types and claim amounts. The most repeated case types were:

- Auto Accidents
- Breach of Contract
- Premises Liability
- Product Liability

Although the entire dataset was not complete, there were several cases remaining for the Team to begin drafting models. The Team narrowed in on key components in the remaining dataset to identify relationships and ways to build a working pricing model prototype.

Key data points were:

- Case Type
- Fee Budgets
- Billed Amounts
- Settlement Amounts
- Claim Ranges

Using specific these data points was paramount throughout the development process and netted positive results.

While analyzing the data, the Team compared different aspects that helped to better understand the company performance regarding cost structure. A more interactive view of this data analysis will be provided at the end of the project. Hermes Law will receive the data analysis along with working copies of all pricing models referenced on a USB drive.

The following data analysis methodologies helped the Team break down the variables and develop data fact statements. The data facts assisted Team members in the selection of criteria needed for a working price model. Additionally, the data analysis methods helped frame the scope of the overall project.

4.1.2 Total Expenses vs Claims Amount

Comparing total expenses to the claims amount shows the average savings for each case. To develop this dataset, the Team tracked differences between the claim amount

and all incurred expenses, which included: expense amount, billed fee, and settlement amount.

The formula used to create this dataset was:

- Claim Amount less Total Fee less Settlement Amount divided by the Claims Amount

The result of this formula produced a percentage expressed as Claim% on the data analysis sheet to be provided at project closing.

On average, the Team discovered there is a 30.24% savings for cases Hermes Law handles.

By analyzing the data, the Team observed risks within the dataset that indicate budget concerns. The risk analysis consisted of 142 cases and utilized the case type and claim range. The numbers in red below indicate occasions where the expenses incurred were higher than the claim amount. These instances represent times where the client may have been better to pay the initial claim rather than litigate the case. Knowing this information was useful in determining risk within the pricing models.

Figure 4.1 Total Expenses vs Claims Amount

Case Type	5K	10K	25K	50K	100K	250K	500K	1M	2.5M	5M	5M+	Average
Architect & Engineering E&O				22.35%								22.35%
Auto Accident	21.96%		-29.79%		65.55%	33.26%	87.81%	96.38%	84.81%		99.82%	57.48%
Breach of Contract		-319.96%	4.35%	-17.69%	48.33%	81.83%	95.91%					-17.87%
Commercial Litigation							73.75%					73.75%
Construction Defect			-2.37%		6.08%	79.77%	-8.06%			60.37%		27.16%
Construction Personal Injury						-2.32%	64.70%		98.45%	69.96%	43.62%	54.88%
Defamation Allegation					53.38%	70.69%						62.03%
Director & Officer Liability										97.22%		97.22%
E&O Claim			11.05%	44.13%	29.37%							28.18%
Environmental				-16.67%			56.64%	87.47%				42.48%
Healthcare						-15.43%	29.04%					6.80%
Insurance Agent E&O			-164.54%	-4.67%		55.70%					99.17%	-3.59%
Insurance Coverage Opinion								82.89%				82.89%
Insurance Litigation								54.45%				54.45%
Misc. Professional Liability							34.32%					34.32%
Other...								82.17%				82.17%
Personal Injury Defense			-319.35%			75.00%	92.99%	82.07%				-17.32%
Premises Liability		16.01%	-4.26%	34.07%	27.58%	56.43%	66.42%	70.29%	90.84%	99.06%	75.52%	53.20%
Product Liability	48.34%		18.85%	28.24%	89.88%	63.72%			97.22%		88.97%	62.17%
Professional Liability						87.60%			90.63%			89.11%
Property Insurance Disputes								74.01%				74.01%
Transportation/Trucking						63.77%		79.73%				92.93%
Average	35.15%	-151.98%	-60.76%	12.82%	45.74%	54.17%	60.69%	79.43%	92.39%	81.65%	83.34%	30.24%

Source: Prepared by the Authors

4.1.3 Fee Budget vs Billed

The fee budget versus the billed budget analysis compares the fee budget and what was billed. The result was expressed as a variable called, Budget% Savings, which will be provided on the USB drive at the close of the project.

The data analysis found that most cases are 43.82% less expensive than the original budgeted amounts. Although this result implies a positive savings for Hermes Law clients, it prompted the Team to think of more ways to make the budgeting process more accurate. The goal for any pricing model developed under the project is to minimize differences in planned versus actuals regarding billing.

The data excerpt below consists of 204 individual cases divided by the case type and claim range. The numbers in red indicate occasions where the billed amount was higher than the budgeted amount. These instances represent occasions where customers were required to pay more than expected.

Figure 4.2 Fee Budget vs Billed

Case Type	10K	25K	50K	100K	250K	500K	1M	2.5M	5M	5M+	Average
Architect & Engineering E&O			70.77%								70.77%
Auto Accident		81.72%		45.64%	43.44%	57.64%		-13.12%		47.15%	43.75%
Breach of Contract	63.33%	67.46%	83.99%		84.78%						74.89%
Commercial Litigation						57.42%					57.42%
Construction Defect		34.09%		64.32%		44.44%			-204.74%		-15.47%
Construction Personal Injury					57.23%	80.62%			70.44%	47.81%	64.02%
Defamation Allegation					33.02%						33.02%
Director & Officer Liability									58.84%		58.84%
E&O Claim			90.28%	69.13%							79.71%
Environmental						47.81%	9.07%				28.44%
Healthcare					87.59%						84.95%
Insurance Agent E&O		65.12%	61.63%							59.81%	62.19%
Insurance Coverage Opinion							22.86%				22.86%
Insurance Litigation							-7.48%				-7.48%
Misc. Professional Liability						69.40%					69.40%
Other...							74.28%				74.28%
Personal Injury Defense		18.33%			63.65%		-33.65%				16.11%
Premises Liability	52.65%	78.34%	47.50%	38.34%	52.88%	54.71%	28.81%	-7.86%		12.77%	39.79%
Product Liability		78.10%		-20.52%	76.93%			73.97%		24.62%	46.62%
Professional Liability								72.92%			72.92%
Transportation/Trucking					35.57%		-13.94%			-192.24%	-56.87%
Average	57.99%	60.45%	70.83%	39.38%	59.46%	61.79%	11.42%	31.48%	-25.16%	-0.01%	43.82%

Source: Prepared by the Authors

4.1.4 Case Evaluation vs Settlement

Another evaluation method compared the case evaluation amount to the settlement amount. This analysis was useful in determining the accuracy of case evaluations. On

average, the Team discovered that most cases are 27% lower regarding the settlement amount, which indicate an under-evaluated case.

This analysis consisted of 34 cases divided by case type and claim range. The numbers in red indicate instances where the case evaluation amount was higher than the settlement amount. This analysis highlights the deviation of the case evaluation.

Figure 4.3 Case Evaluation vs Settlement

Etiquetas de fila	10000	25000	50000	100000	250000	500000	1000000	2500000	5000000	100K	10K	25K	5000000+	NULL	Total general
Auto Accident		0.00%		184.26%	127.58%	26.97%		-17.40%							73.36%
Breach of Contract		-29.17%	0.00%		-32.14%					0.00%	72.41%	100.00%			11.28%
Commercial Litigation						16.01%									16.01%
Construction Defect		-25.00%		-87.44%					-14.80%					-77.27%	-43.86%
Construction Personal Injury					100.00%	-66.67%			-40.60%					-97.68%	-26.24%
E&O Claim			0.00%												0.00%
Environmental			2.01%			-26.25%									-12.12%
Healthcare					7.34%	-20.90%									-13.84%
Insurance Agent E&O					8.11%										8.11%
Insurance Coverage Opinion							0.00%								0.00%
Insurance Litigation							-28.57%								-28.57%
Misc. Professional Liability						25.00%									25.00%
Other...							-71.69%								-71.69%
Personal Injury Defense		-50.00%			-4.76%										-27.38%
Premises Liability	14.58%	-11.25%	247.34%	-16.39%	-17.90%	8.44%	-0.66%	28.00%			243.98%	44.29%	20.00%	50.00%	31.21%
Product Liability				-25.93%	1.88%									-33.01%	-19.02%
Professional Liability								460.38%							460.38%
Transportation/Trucking					316.48%		-24.51%							-49.70%	106.85%
Total general	14.58%	-18.10%	141.62%	12.77%	41.75%	-2.07%	-15.26%	156.99%	-23.40%	0.00%	158.20%	72.14%	-40.10%	-13.64%	27.00%

Source: Prepared by the Authors

4.2. Dynamic Fixed Budget Price Model

After analyzing the preliminary data, the Team began exploring for correlations between the ultimate billed fee and variables that may be available to individuals forecasting the value for the individual case.

One possible solution explored was a Dynamic Fixed Budget Price model based on the total billed fee of previous cases as a percentage of the original claim amount supplied by the client. Rather than using a strict fixed-fee, the dynamic fixed budget price model would operate under the assumption that the client has provided analysis upfront, which is supported by the initial claim amount.

The logic behind the model takes all cases supplied by Hermes Law and assigns a Fee to Claim percentage based on case type. As more cases are entered, Pivot Tables in Microsoft Excel recalculate the averages, which may help to provide more accuracy as more information is collected.

Figure 4.4 Average of Fee to Claim

Row Labels	Average of ClaimAmount	Average of SettlementAmount	Average of BilledTime	Average of Total Fee	Average of FeeToClaim
Auto Accident	\$195,935.82	\$66,194.94	84.125	25310.44929	12.4%
Breach of Contract	\$37,845.76	\$14,187.50	66.5125	21889.76	37.8%
Commercial Litigation	\$334,225.00	\$45,000.00	140.25	42724.97	12.3%
Construction Defect	\$1,411,046.50	\$347,199.01	143.44	274229.344	19.4%
Construction Personal Injury	\$1,382,754.37	\$1,618,750.00	320.275	96473.6125	2.8%
Defamation Allegation	\$87,500.00	\$12,375.00	79.45	19765.18	21.4%
E&O Claim	\$44,097.00	\$22,166.67	107.0666667	27916.4	62.5%
Environmental	\$413,861.96	\$69,802.92	97.6	41402.61	9.8%
Healthcare	\$192,000.00	\$132,200.00	95.56	21574.164	10.7%
Insurance Agent E&O	\$2,800,250.00	\$15,625.00	241.525	48074.21	1.7%
Insurance Coverage Opinion	\$600,000.00	\$50,000.00	183.5	52656.34	8.6%
Insurance Litigation	\$770,000.00	\$280,000.00	216.7	70710.18	9.2%
Misc. Professional Liability	\$312,853.00	\$100,000.00	314.2	105478.3	33.2%
Other...	\$500,000.00	\$50,000.00	#DIV/0!	39170.46	7.8%
Personal Injury Defense	\$105,000.00	\$6,750.00	110.25	39212.890	35.2%
Premises Liability	\$329,934.33	\$70,205.17	159.1595745	40776.82255	11.8%
Product Liability	\$1,034,196.76	\$83,870.07	129.57	64315.13	6.2%
Professional Liability	\$1,574,044.70	\$65,000.00	102.8	78082.595	5.0%

Source: Prepared by the Authors

To assign the projected fee, a Hermes Law associate simply needs to supply the Client and Case Type from the drop-down menus and input the claim amount from the client. After inputting these values, a projected fee is generated to price the case.

Figure 4.5 Input Data Sheet

Hermes Case Input Data Sheet

Client	Case Type	Claim Amount	Projected Fee
AIG	<div style="border: 1px solid black; padding: 2px;"> Professional Liability Misc. Professional Liability Other... Personal Injury Defense Premises Liability Product Liability Professional Liability Property Insurance Disputes Transportation/Trucking </div>	\$75,000	\$3,720.48

Instructions:
Use drop-down menu to pick from
Enter claim amount from client
Use projected fee generated and evaluate any additional variables to price case

Source: Prepared by the Authors

4.3. Difficulty Coefficient Based Pricing Model

Another model explored by the Team was a Difficulty Coefficient Based model (CBM). This model uses multiple factors such as:

- Client Name
- Case Type
- Claim Amount
- Expected Case Duration
- Case Severity
- Difficulty Level
- Plaintiff Attorney Mindset
- Actual Billed Time
- Fixed Rate

Utilizing the referenced inputs helps to consistently and objectively calculate a total fee Hermes Law may charge. All inputs to the model are based on percentage averages from data provided by Hermes Law and would have minimal sustainment costs.

Like all models represented within this report, it will be important for Hermes Law to consistently capture all data points moving forward. The model works on the premise that more data provides a more accurate fee.

A working example of the model along with a user guide will be provided in the USB drive to Hermes Law at the close of the project. Users of the model will see a series of drop-down menus guiding them through the process as shown below:

Figure 4.6 Difficulty Coefficient Model Input

Client Name:
Select the Client Name from the dropdown list:

Client Name
Zurich North America

Case Type:
Select the Client Name from the dropdown list:

Case Type
Premises Liability

Expected Case Duration vs. Average:
Select the Expected Case Duration vs. Average from the dropdown list:

Expected Case Duration Compared to the Average
2 - 40% Less than Average

Case Severity:
Select the Case Severity from the dropdown list:

Case Severity
5

Source: Prepared by the Authors

After inputting all information, users will see a final expected total fee. The fee gives Hermes Law the ability to remove bias in the budget setting process, and promotes more accurate pricing for clients.

Figure 4.7 Difficulty Coefficient Model Output

Expected Total Fee:
This field will automatically update and change based on any variation of inputs.

Expected Total Fee
\$ 15,582.81

Source: Prepared by the Authors

4.4. Artificial Intelligence Machine Learning Model

Another model explored was the Artificial Intelligence Machine Learning model (AIML). This model exploits recent advances in computer networking and can propel users into the future with predictive analytics.

4.4.1 *AI Machine Learning Techniques*

AI now drives cars, recognizes faces and letters, beats the best human GO player in the world (one of the most ancient games with over 10^{170}). The Capstone Team believes it is a great time to explore uses in the legal industry.

The two of the popular ways to do this modeling is using R and Neural Networks. R is a free programming language available with free tools. It is very powerful tool and most companies with large troves of data use it regularly as part of their day-to-day business. One drawback for the project with Hermes Law is that R modeling requires approximately 100,000 records to do a thorough analysis, which is much more than the initial dataset.

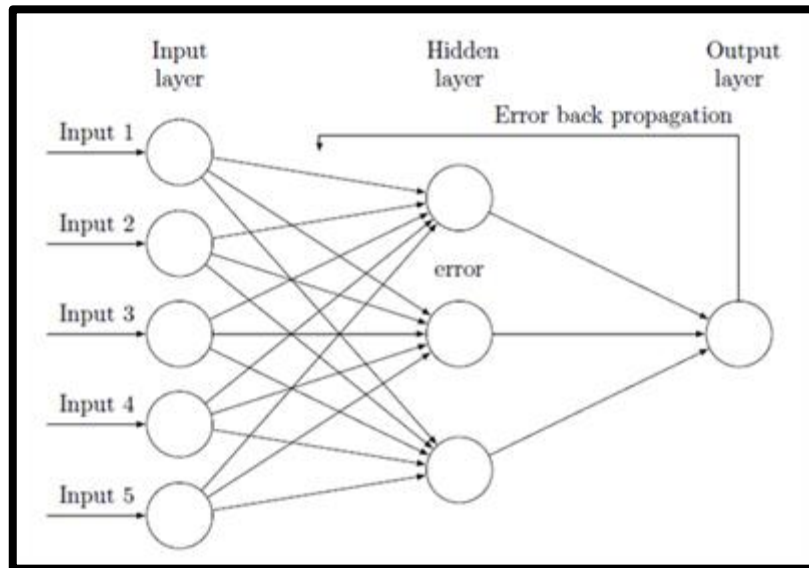
Because the dataset was limited, the Team utilized the Neural Network, which is composed of artificial neurons that learn through trials by correcting itself. This same technique is used for facial recognition and character recognition. The key aspect of the successful training in the neural network is the amount of valid data.

The feasibility test was performed on Neural Network with limited amounts of data due to many of the records containing null values. However, the implementation of Neural Network using C# in visual studio environment confirmed that the Neural Network was learning and adopting itself to the dataset. Although the Team was unable to provide a solid model with the given data, the Team recommends using Neural Network, or R to do predictive modeling.

4.4.2 *How Neural Networks Work*

The Neural Network works by moving data through a series of repeating tests through different layers: Input Layer, Hidden Layer, and Output Layer. The diagram below illustrates how the network can learn in the hidden layer by error checking at the output layer and looping through within the hidden layer.

Figure 4.8 How Neural Networks Work



Source: Prepared by the Authors

The input lists are numerically converted values of ClientID, CaseType, Fee Budget, Claim Amount, and Case Valuation. These values are also normalized by using minimum and maximum values. The values are in the range of 0 to 1 using decimal values. It is important to keep the value in manageable range. A single outlier value in either minimum or maximum may throw off the model building process.

The hidden layer in the above diagram pictures one layer, but it can be more than one layer with any number of nodes. The algorithm loops through the nodes and adjusts the weights by comparing the results in the output layer. The output layer could convey the total billed Fee in the demo but can be easily modified to create anything.

4.4.3 *Prototype Description*

The program below demonstrates the technology is very promising. Though the program is not able to produce 100% accurate predictions of the “Total Billed Fee”, it does indicate how the neurons work together to build a hidden layer that may help to solve the problem of estimating the actual legal costs.

Below the grid toward the top of the image explores the data with the usable values and columns. From there the left tree view contains the nodes details. Toward the bottom, the Neural Network Diagram includes the current values of the neurons in graphical format. The application also has an option to do mass training and single training, along with UI testing.

Figure 4.9 Prototype Description

Case Information from DB

ClientID	ClientName	CaseTypeID	Case Type	FeeBudget	ClaimAmount	CaseValuation	SettlementAmount	TotalBilledFee
22	Zurich North Ame...	17	Transportation/Tr...	76750.0000	672607.0000	87500.0000	110000.0000	121611.2000
22	Zurich North Ame...	1	Auto Accident	50740.0000	155000.0000	80151.3000	25000.0000	46450.5300
6	Broadspire	2	Breach of Contract	34976.0000	185000.0000	9000.0000	9000.0000	7501.1000
18	Scottsdale Insura...	2	Breach of Contract	89960.0000	100000.0000	12500.0000	35000.0000	8082.0000
21	United Fire Group	14	Premises Liability	11310.0000	100000.0000	40000.0000	45000.0000	9378.0000
2	AIG	14	Premises Liability	25000.0000	100000.0000	25000.0000	22500.0000	9901.0000
10	Enstar Group	8	Healthcare	149020.0000	250000.0000	150000.0000	167500.0000	10722.0000
22	Zurich North Ame...	17	Transportation/Tr...	73945.0000	137086.0400	47642.0000	6500.0000	33797.9300
22	Zurich North Ame...	1	Auto Accident	55050.0000	1350000.0000	433645.4800	525000.0000	62270.0200
22	Zurich North Ame...	13	Personal Injury D...	99597.5000	200000.0000	10000.0000	10500.0000	36199.2100

Neural Network Content

Graphical representation

Single Training of NN

Test the Trained NN

Source: Prepared by the Authors

The application may be tweaked and adjusted by changing the learning rate and the neuron configuration:

- Following code in the form1.cs file is the place where these values may be changed

- Learning rate is the value which affects the degree of change in neuron's weight during the learning process.
- The Node arrangement node conveys how the neurons will be arranged. The example of 5, 4, 3, 1 shows the Neuron arrangement value of the prototype.

Figure 4.10 Prototype built using Microsoft Visual Studio 2015

```

using NeuralNet.NeuralNet;
using System;
using System.Collections.Generic;
using System.Windows.Forms;
using System.Data;
using System.Linq;
using System.Data.Linq;
using System.Data.Linq.SqlClient;
using System.Drawing;

namespace NeuralNet
{
    3 references
    public partial class Form1 : Form
    {
        NeuralNet.NeuralNetwork nn = new NeuralNet.NeuralNetwork(0.5, new int[] { 5, 4, 3, 1 });

        1 reference
        public Form1()
        {
            InitializeComponent();
        }
    }
}

```

Source: Prepared by the Authors

4.4.4 Improving Input Parameters

The demo is simple; however, it may be improved. The inputs may include other facts about the case that could affect the outcome. Some additional inputs may include:

- Age of the plaintiff
- History
- Wealth
- Education level

- Season
- Assigned law firm
- Voice tone in initial contact
- Type of occupation

4.4.5 *Output Options*

The output may also be adjusted to display anything. It may be a simple total billed amount simulator as well as the predictor of outlier cases that goes beyond the originally allocated case hours. The Team noticed that one outlier case may have such a high figure that it could affect average values to be useless. The model may also run throughout the life of the case so that it can provide an alert about whether it is about to become an outlier case

4.4.6 *Dependencies*

Both R modeling and Neural Networks require significant amount of solid data. There is a term “GIGO” in computer science (Garbage-In-Garbage-Out). The model will only be as good as the source data. Gathering more case information consistently is critical in data modeling. Keeping more detailed case information and requesting additional information from customers and competitors will be helpful. When executed consistently this may be additional source of revenue and a marketing point.

4.5. Hybrid Model

The Hybrid model includes the use of both the Difficulty Coefficient Based Model (CBM) and the Artificial Intelligence Machine Learning (AIML). The CBM is essentially a pricing model that allows Hermes Law to dial in a fixed budget necessary

to represent the defendant while covering their costs and risks. The Hybridity of this model is due to the combined use of the AIML along with the CBM.

AIML used in conjunction with the CBM will track what previous case valuations or key performance indicators (KPI's) have been and allow for a budget comparison between what has historically been budgeted with what is forecasted.

Using more consistent data, the CBM and the AIML will yield more accurate budget forecasts. However, without quality data, neither tools will be able to serve as an accurate pricing tool. The use of these two pricing tools will help Hermes Law distinguish themselves along the two lines mentioned in the industry analysis.

With the implementation of the two pricing models, Hermes Law will be able to maintain a more effortless customer experience. Unexpected out-of-scope fees will be easier to identify in the early phases of the budgeting process. This will help avoid surprises to the customer at the end of the case life to inform of higher than expected fees.

Internally Hermes Law will be able to effectively budget for each case load and in turn better clear their operating margins. These pricing tools will allow Hermes law to track their utilization to realization to collection rates. For example, if the assigned lawyer(s) on a case work at a utilization rate of 100% (40 hours weekly) but are only able to charge 35 hours of that time (due to inefficiencies or disputes), their realization rate would only be 87%.

Additionally, if a client disputes an additional five hours it would drop the collection rate to 75%. Hermes Law would be missing out on 25% of their collectible billing hours, which will ultimately affect the bottom line. Leveraging this data will

help Hermes Law begin to operate more as a business with predictive analytics guiding decisions.

CHAPTER V. MARKETING ANALYSIS

5.1. Competitor Analysis (Porter's Five Forces)

The following analysis provides an in-depth view of Hermes Law's competitive position in the legal industry and helps to identify which strengths or weaknesses may be exploited to strengthen the overall position. The use of Porter's Five Forces of Competitive Analysis helps to frame the analysis and help determine the intensity of the industry.

5.1.1 *The Bargaining Power of Buyers.*

Every buyer in the market possesses the power to bargain. This power is to negotiate the capacity of one party to dominate the other due to its influence, power, size, or status, or through a combination of different persuasion tactics. In that case, the insurance companies can always claim the right to bargain and demand lower prices with the high quality of services from Hermes Law in order to meet their demands. This concept can tend to be an enormous threat to the efficacy of our client's pricing model because Hermes Law must provide the best service to meet their demands.

5.1.2 *The Bargaining Power of Suppliers.*

Strong bargaining power allows suppliers to sell higher priced or low-quality services to their buyers. Suppliers have the power to fix their prices and rates in accordance with their break-even analysis. This can be referred to as the bargaining power of the suppliers. In that case, the suppliers are insurance companies supplying cases to Hermes Law and opposing litigation firms. In order to eliminate this issue, the Team came up with a precise and clear pricing model that takes all influencing factors into consideration. This gives the buyers or insurance companies a clear picture upfront of what and how much they need to pay for the services.

5.1.3 *The Degree of Competitive Rivalry.*

The intensity of competition in every industry is set by the various institutions taking part in the industry. In this case, Hermes Law has many competitors, the best examples of which are Sargent Law, Bates Law and other companies like The Biggers Law Firm. The prices set by our client's competitors, directly and indirectly, have a substantial impact on Hermes Law pricing.

Buyers or insurance companies determine the best services at the lowest price. This should be the goal of every organization. In order to achieve this goal, companies tend to participate in rivalry to get the required customer base. In other words, law firms must price their services effectively to get on insurance panels and receive cases.

The legal industry started out as very competitive, with law firms a dime a dozen. Since the 2008 market crises, legal work has "flattened out" as law firm clients tried to decrease their costs (Smith, 2015). In the last few years, most industries have been disrupted by technology and the customer wanting things more efficiently. An example is television and Netflix taking advantage of the disruption brought by customers changing needs and wants to create a service that is convenient and efficient.

According to Christopher Andersen of LexisNexis, senior product, and firm manager, clients of law firms will bring about the disruption of legal services. This suggests that the firms are not the only rivalry – Customers are guiding the discussion too (Strong,2014). The clients will change how law firms sell their services.

Market share must now come at the expense of the competitors (Smith, 2015). More legal work is kept in-house and increases competition. Firms must be innovative to satisfy their client's needs and capture market share going forward. The degree of customer rivalry, hence, has the capacity to make or break Hermes Law's pricing model.

5.1.4 *The Threat of Substitutes.*

Substitutes are an inevitable option that buyers tend to move towards when pricing conditions are not in accordance with their best interests. Technology stands as a prominent substitute. Law is interacting with business and technology more than ever, and is redefining what it means to practice law.

Technology presents lawyers with the opportunity to use effective new business models to deliver services and monitor business and financial performance. There are few services the Internet does not offer, in most cases, for free! Some jurisdictions have outside investment that will create new models, and may have accounting firms once again providing legal services (Smith,2015). Additionally, large accounting firms which establish subsidiary law firms also represent substitutions. The other substitutes may come up with better and more effective pricing models that can stand as threats to Hermes Law pricing model.

5.1.5 *The Threat of New Entrants.*

Pricing models designed by new entrants may pose a threat to Hermes Law's pricing model by offering lower prices to insurance agencies. New firms are being established at an alarmingly fast rate offering better prices, greater benefits, more attractive offers and other buyer-friendly gimmicks.

These new entrants target the dominant buyer personas and understand wherein the buyer's journey they need to make an impact. The newer the firm, the more knowledgeable it is of the changing economic circumstances. This makes new entrants more equipped to face issues related to pricing. Also, the threat of new entrants may be high because the pricing model that Hermes Law is about to use do not register for patents or trademarks.

Technology has contributed a big part in leveling the playing field between small firms and large firms (Fuller,2014). Many buyers of legal services see the perceived value as no different, or even greater than the value from large firms. Creating rivalry amongst existing competitors (Fuller, 2014). There has been an increase of international firms making growth in the US a strategic initiative, which is bringing about complexity in the market for US firms (Fuller,2014).

5.2. SWOT Analysis

The following section provides an analysis of Hermes Law's strengths, weaknesses, opportunities, and threats (SWOT). Information obtained through SWOT analysis was paramount in developing pricing models and marketing strategies.

5.2.1 Strengths

- Pricing model savings of 30.24% when run on claims and incurred expenses.
- Pricing model allows 43.82% savings when compared to Fee budget and what was billed.
- Able to determine fixed budget pricing.
- AIML based case predictor allows Hermes Law to offer online services to prospective clients.
- AIML based case predictor may produce different results based on what data is input in the system.
- Hybrid model combined with CBM reduces prices and helps Hermes Law maintain a competitive advantage.
- The CBM will allow Hermes Law to force the industry and other law firms to reduce prices.

- Hybrid model brings low cost, clarity, and aligned interests of both parties between Hermes Law and insurance companies.

5.2.2 *Weaknesses*

- Some higher incurred expenses than the claim amount will offset the accuracy of the savings.
- Lack of process efficiency.
- Can't use pricing model to determine case evaluation vs. settlement amount.
- Since it is a new model it could be time consuming to make the transition.

5.2.3 *Opportunities*

- Allows Hermes Law more opportunities to increase budgeting accuracy.
- More cases will be input to maintain the accuracy of the data.
- Expanded options for evaluating case vs. settlement.
- Fixed budget pricing will attract more customers who are opposed to hourly billing and find it unpredictable.
- Continued utilization of the AIML will allow more information to be stored in the system, causing it to output data and case evaluations more accurately over time.
- Hermes Law is being an innovative and cutting-edge law firm who is disrupting the industry amongst their competition.
- Hybrid model allows the pricing to be lower and avoids the high prices that hourly billing may incur.
- More improvements and additions to the database may be done overtime to provide more output.

5.2.4 *Threats*

- Not enough cases and/or higher incurred expenses will offset the accuracy of the saving amount.
- If not processed efficiently and accurately, it could result in customers paying more than expected.
- Case evaluation vs. settlement could be undervalued.
- Not all insurance companies are willing to try a hybrid model, since this has not been fully tested.
- It is profitable for Hermes Law to sell a Hybrid model to insurance companies at a fast pace, as other law firm can follow and develop a similar hybrid model and more billable hour law firms will change to fix budget pricing after seeing the success it brings Hermes Law.

5.3. **Marketing Strategy**

The following section provides insight on the model selection, benefits to the customer, industry attractiveness, and an overall marketing strategy.

5.3.1 *Model Selection*

The Team suggests utilizing a hybrid model with first implementing the CBM immediately. This would gradually build out the dataset for the AIML model to improve the overall pricing process and client experience. With proper implementation, these models will significantly disrupt the legal industry and force other law forms to reduce prices to be competitive. The billing will begin with a predetermined rate based on case type, and if the case evolves into a higher complexity, the billing model will begin estimating an hourly rate.

5.3.2 *Benefits to the Customer*

From a client's perspective, Hermes Law will be able to give customers the benefit of a clear mind when knowing most the charged fees upfront. Based on the research in our focus group, this billing type will provide a cheaper billing model to law firms while also be attractive to clients.

The hybrid model will be structured in a way that the lawyers and the customers both benefit considering that clients will have reduced expense lines in their budgets. Additionally, lawyers will go through less audits of billable hours and retain more revenue. The revenues, although reduced, will eventually prove to be profitable for Hermes Law as The Firm retains more business with this new pricing model.

Ultimately, the model aligns the interests of the client with the attorney's interests because it allows for predictability on behalf of the client when handling different cases. It also incentivizes the lawyer to work more efficiently and produce great work for the client. Finally, there will be fewer fee disputes between the client and the law firm.

5.3.3 *Industry Attractiveness*

Given the antiquated nature of the legal industry, most law firms are focused on hourly billing and very few on flat rate billing. Hermes Law should plan to sell this to immediately impact and tackle small to midsize insurance firms that are seeking a more attractive rate. However, Hermes Law should properly weigh the usage of the AIML model to compete in and disrupt the market place, given it is not fully tested and there is a lack of information with the current dataset.

The primary barrier to entry the new hybrid model will be its adoption by insurance companies and getting them to give it a try. However, if priced correctly there will be an opportunity to obtain industry traction. Based on current industrial

prices and client sentiment, law firms on average consistently see higher billable hours. For this reason alone, the industry needs a new and exciting pricing model that will force competitive change, as well as form a stronger partnership with existing clients.

5.3.4 Marketing Strategy

There are two primary strategies that this hybrid model can assume: An industry leadership strategy, and a “sharing” strategy. Both assists the model’s selling potential and fulfill the absolute necessity of building out the AIML portion of the hybrid model.

Given the data provided to the Team by Hermes Law, the developed models, and industry research, the Team estimates that Hermes will be able to price this hybrid model within five percent of the industry average, effectively satisfying the client’s main interest, i.e. the reduction in billable hours.

This percentage margin will only widen as the AIML portion of the model increases accuracy. Additionally, regardless of approach and strategy, the Team recommends that an online client dashboard be developed and utilized to increase transparency throughout the claims process. Not only will this improve relationships with clients, but it will also serve as a conduit for the accuracy of the model. The hybrid model’s success is completely dependent on immediate availability data and troubleshooting of potential roadblocks in early implementation. A client dashboard satisfies both concerns.

As a Capstone Team, we recommend taking a leadership role in the legal industry. This suggestion is based on the current trajectory of Hermes Law and their meetings with international clients that may serve as potential sources of data, and its pre-existing relationships with clients regionally.

Once a pricing strategy is developed, the firm should approach as many insurance companies as quickly as possible and sell them the benefits of the hybrid

structure (lower cost, clarity, and aligned interests). With a proprietary AIML portion of the hybrid model, another selling point of this approach would be to form an exclusive client partnership to leverage the client's extensive case data to make the hybrid model more accurate, such as case severity and other metrics that may not be overtly correlative to the case on the surface.

A secondary approach and a further suggestion would be to seriously consider the opportunity to share or at the very least license the AIML portion of the model with fellow competitors regionally and then gradually on the national scale. Regardless of the choice in AI model, R or Neural Network, the use of the AI tool as a partnership with other law firms would be an effort to reflect change on the clients or the insurance companies.

The change would force clients to change how they deal with Hermes Law throughout the claims process. Additionally, clients would not be able to senselessly audit for overages on their accounts. Furthermore, this partnership would provide a level of collaboration that would yield more data points where the machine learning would become more accurate and bullet-proof over time. The Team suggests this as a potentiality given that there are several models being utilized by smaller firms and online, such as Legal Zoom and other companies that are outsourcing legal tasks.

In conclusion, the leadership in industry approach begs the question from competitors: "What about the status quo, and how are you going to change the relationship aspect of the law profession?" without being too flippant, with relative ease.

This business along with others that still are dominated by unquantifiable metrics are now following under pressure to become more efficient with technology's

advancements. In the hybrid model, both structures will work based on what Hermes Law assigns in value to various data points, and this may be the primary selling point. Hermes Law may have had a gut feeling for how an outcome of an insurance liability case may play out, now a model will be able to communicate that same feeling in expense line items to the client.

Ultimately, this hybrid billing system will give Hermes Law the ability to price the whole process correctly from the start, with limited or no auditing from a client's perspective. With improved accuracy and consistency, the business becomes more efficient and profitable over time.

CHAPTER VI. CONCLUSION

- This Project was developed as a consultancy for our Client - Hermes Law. It sought to propose alternative models of Legal Services Billing in comparison to the traditional model of Billing by the hour.
- The team researched using primary and secondary sources to soak up the needs and situation of the U.S. Legal Sector, especially related to Service Billing.
- With the information provided by the client, the Team conducted multiple analyses to develop different value propositions in reference to alternative Billing Models, which could result in a competitive advantage for the Client.
- A complete and detailed report of all the research and Value Proposition was presented. Likewise, a series of sessions were held with the Client to present the findings and explain in detail how the proposed models worked.

CHAPTER VII. RECOMMENDATIONS

The following recommendations are divided into two categories: Immediate and Long-Term. The Team believes a phased approach will provide Hermes Law with a balanced plan to implement and sustain the proposed recommendations.

INMEDIATE

To complete the last mile and progress Hermes Law toward their journey, the Capstone Team recommends the following for the immediate term:

- Implement a hybrid pricing model consisting of a combination of the Coefficient (CBM) and Artificial Intelligence Machine Learning (AIML) Price Models.
- Continue collecting data internally and eliminate nulls going forward to fully leverage upcoming price model changes.
- Review CBM and AIML variables and adjust parameters based on proprietary knowledge within the firm.
- Leverage existing data troves with current clients to strengthen hybrid model's accuracy and increase selling power of product.
- Begin creating online client dashboard to increase transparency throughout the claims process.
- Price hybrid model 5% below the industry average to satisfy client's main interests.

LONG-TERM

To fully disrupt the industry, the Capstone Team recommends the following actions over the long-term:

- Undertake a strategy of becoming the leader in the legal industry by partnering with large clients such as Lloyd's of London. Use relationships to extract larger data troves to bolster CBM and AIML datasets.
- Explore the ability to license price model software to competitors or clients.
- Utilize the AIML model to fully exploit the industry once sufficient data has been loaded to the data troves.

APPENDICES

APPENDIX 1. Supplemental Research

Because most members of the Capstone Team did not have prior knowledge of the legal industry, there was an opportunity to bolster knowledge about the profession and gain insight through supplemental research. Although not all research listed below is directly cited in this report, the information gained helped guide the Team throughout the process and provide educated recommendations.

Articles Researched

- You Charged How Much?
 - Article providing insight on the relationship between law firms and insurance companies.
 - Author gives insight on what may eliminate third party billing and why trust and transparency may be key (Baker, 1999).
- Operational, Legal and Tax Issues in Life Settlement Transactions
 - Article providing a history and current state of the life settlement structure regarding regulation and taxation.
 - Authors provide insight on how this segment may better serve market participants in the future (Evans, Russell and Sager, 2013).

BIBLIOGRAPHY

- Baker, D. (1999). You charged how much?. *ABA Journal*, 85(2), 20.
- Evans, B. D., Russell, D. T., & Sager, T. W. (2013). Operational, legal and tax issues in life settlement transactions. *Journal of Insurance Regulation*.
- Fuller, P. (2014). Porter's five forces applied to the legal industry. *Elite*. Retrieved March 12, 2018, from <http://www.elite.com/porters-five-forces-applied-legal-industry/>
- Newton, J. (2017). Law firms of the future will give clients an effortless experience. *ABA Journal*. Retrieved from http://www.abajournal.com/magazine/article/law_firm_performance_data
- Smith, L. (2015). Porter's five forces are actually relevant to law firms. *Big Law Business*. Retrieved March 11, 2018, from <https://biglawbusiness.com/porters-five-forces-are-actually-relevant-to-law-firms/>
- Strong, F. (2014). Disruption in the legal industry flows from clients. *Business of Law Blog*. Retrieved March 11, 2018, from <http://businessoflawblog.com/2014/03/disruption-legal-industry/>
- VanPuymbrouck, D., & Kurtzman, J. (2013). The rise of alternative fee arrangements. *American Bar Association*. Retrieved from <http://apps.americanbar.org/litigation/committees/corporate/articles/fall2013-121113-rise-alternative-fee-arrangements.html>
- Vassallo, J. (2012). ALM report shows alternative fees making slow progress in legal world. *JD Journal*. Retrieved from https://www.jdjournal.com/wp-content/uploads/article_pdf/45802.pdf