

A photograph of several smooth, dark, rounded stones arranged in a line across a body of water, serving as stepping stones. The water is calm and reflects the light, creating a shimmering effect. The stones are dark and have a smooth, polished appearance. The background is a soft, hazy landscape with a horizon line, suggesting a sunset or sunrise.

# Stepping Stones to Successful Implementation of a Contract Lifecycle Management System (CLM)

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*From Legacy Contracts on non-searchable Paper to clean, searchable, structured data in a CLM.*

### THE PROBLEM

Contracts have traditionally been stored on paper and the fact that they are located in different physical locations and vary in content, form and language often compounds the problem. Centralizing, and normalizing the contract information into a digital and searchable formats is the first step towards the answer. But how do you get the unstructured text copy of a contract into a digital form, with structure, so the essential elements can be accessed on demand by multiple people, at different locations, who may have distinct needs? The contract manager can have differing needs to the lawyer, to the sales manager to the accountant, but they all may need to review certain aspects of the contract. Given the possibility of many thousands of contracts in a company, new, current or expiring, the issue is highlighted and the potentials for both upside and downside can have enormous impact on sustainability and profitability.

### OVERCOMING THE PROBLEM STEPPING STONES TO A SUCCESSFUL CLM SYSTEM INSTALLATION

Success in capturing rich complete information about your contracts, is the outcome of a process. The process is composed of various steps that enable the contracts to move from paper into searchable digital information. Think of each step as an event where a specific outcome of the information meets pre-determined criteria of content, quality and accuracy. At each step the information is distilled further and verified to achieve a high quality indicator of Six Sigma reliability. This level of accuracy and quality gives you the confidence in the completeness and accuracy of the final data set.

### ABSTRACT

*Organizations use and need legal contracts to transact business, but it is only when they are managed in an efficient way do they really make business effective. It is therefore imperative to have a system that can store and recall not only the contracts but also the critical and key elements of any contract. For this to work reliably, you need the extracted contract information to be complete and accurate. The system which will then manage the contractual documents as well as the extracted data needs to address everything you need and want to deliver the outcomes you expect. Only then can you be sure of optimizing your contractual obligations, maximizing your opportunities all while minimizing risk. Extracting accurate information from your contracts that you can search, query and recall on-demand is accomplished with the Brightleaf process.*

## THE STEPPING STONES

### Step 1: Inventory

The process starts with a consultative analysis of your organizational needs for contract management. Which department has contracts, how many contracts and associated addendums exist through the organization? First, you need to get an inventory of the contracts and the associated addendums, segregate them into different groups (Supplier, NDAs, etc.). Make a list of all the groups by location. Add the name of the stake-holders in each group, identifying the “go-to” person who could be your “project manager” for each of the group. Much like you would be the global project manager. Have them give a list of the documents, locations, types, master agreements, addendums, naming conventions they follow etc. Prepare a spreadsheet on how you would like the data sent to them, so that when you get it back you will have consistent information from all the groups. This is not an easy task, as the priorities of each of the groups may differ.

### Step 2: Conversion

Next step would be to scan the paper documents into computer files; usually PDFs. Each of the groups need to do that. If all are centralized, this can be coordinated together. Gather a document which outlines the best practices for the scanning. It is important that each contract is scanned into a different file, and associated addendums are named in a way that they can be matched up. For example, you may have COM\_TYPE\_USA\_0001 as the naming convention which designates your company name in the first three letters, followed by type (e.g. supplier), and followed by country and then the number. The addendums can have another \_A1 as the file name added, so that the parent and child relationships are matched up easily. Paper to computer file scanning are done by “Imaging Service Bureaus” who often times will wheel in high end document scanners to your facilities and do the imaging.

These scans are in an image or a picture format. These need to be converted into a text format, the process known as “Optical Character Recognition” or OCR. The results of this OCR step are largely dependent on the quality of the scan of the documents. If the scans are fuzzy, with much noise, skewed or with spurious characters, then the OCR process will yield poor results. The scans should also be performed at a high DPI rate (dots per inch), so that the OCR process will yield better results. The reason the quality of the scan is important, because later on in the process, this file can be pushed through a natural language software platform such as the one offered by Brightleaf, which will then be able to do a “bulk of the heavy lifting” in terms of extraction of the elements from the contracts. If the original scan is not of good quality, the software will not be able to produce good results, and hence any efficiency gained by using such a software would be lost. It is good to mention at this stage that such a software tremendously increases the accuracy and efficiency of extraction of these elements from the contracts.

The OCR process, while highly effective, is not perfect! There can be read errors, or ambiguities (is the character a 1 or an l, is it a zero or an o?). Therefore, a quality check at this stage using human

verification is used to identify such outliers and are verified or changed as required. In this way, the digital data is cleansed before the next step. The quality check process is not restricted to a single pass, and can have multiple passes until the high level of accuracy demanded is achieved. The final outcome of the entire process is Six Sigma (99.99%) accuracy, which ensures all essential input data is accurate.

### Step 3: Tracking elements

A parallel step would be to identify who wants what information, and what should that look like. With so many elements, commonly called attributes, in a contract that may be needed, and so many operational and departmental needs this consultation will determine the information to be extracted. From a few contract attributes to over 1300 as one of our current clients would like to track, the number of attributes and data relationships you need, and want, can be unlimited. This step in the process is to work with each group to determine priorities of the attributes that need to be tracked. Categorize them into P1, 2 and 3 (Priority 1, 2, and 3). Priority 1 attributes are the ones that are required to be tracked and reported upon with high frequency, etc. More attributes can be added later if a new need arises, or if some are overlooked initially. The list of attributes is called the ontology and this forms the basis of identifiable relationships for the semantic extraction of the information. The ontology varies for each type of contract. For example, with NDAs you may want to track counter party name, expiration date and address only. For your Supplier contracts, you may want to track the ship from location, penalty clauses etc. It's the table of what you want to extract, store and retrieve to manage your contracts effectively and fully.

*These three steps are the key to starting the stepping stones towards organizing your contracts into a Contract Management System, or a Contract Lifecycle Management System (CLM).*

### Step 4: Extract the attributes from each contract

Next stage is the attribute extraction process. This stepping stone can be done in multiple ways (see white paper labeled [Getting the most from a Contract Management System](#)). Summarizing, you can go through each document yourself, use "Control-F" to find text, and cut and paste the value into an Excel spreadsheet. This is hugely error prone and massively time consuming. Often times, this is then given to a Legal Process Outsourcing (LPO) organization. Who usually throw bodies at this problem. That does not make it any more accurate or faster. Until now. Now there is a new breed of using Natural Language Processing (NLP) software which looks at phrases, words and sentences in each contract and understands meaning according to the rules set for the attribute extraction. Some clients then license such software and try to do the work themselves, only to realize that they cannot rely on the software as it is not designed and developed by them, hence they cannot predict what is extracted and what is left out. They quickly find out that the amount of effort when you are dealing with 100's or even 100,000's of contracts to quality control each attribute and fill in the missing blanks is un-surmountable.

These rules for extraction are customized for each client to ensure the attributes are fully identified and extracted. The NLP makes the text meaningful for the semantic software to look for relationships, correlations with the attributes in the ontology, and deeper meanings. These rules are configured into the software which extracts most of the information from the contracts. Words and phrases, nouns,

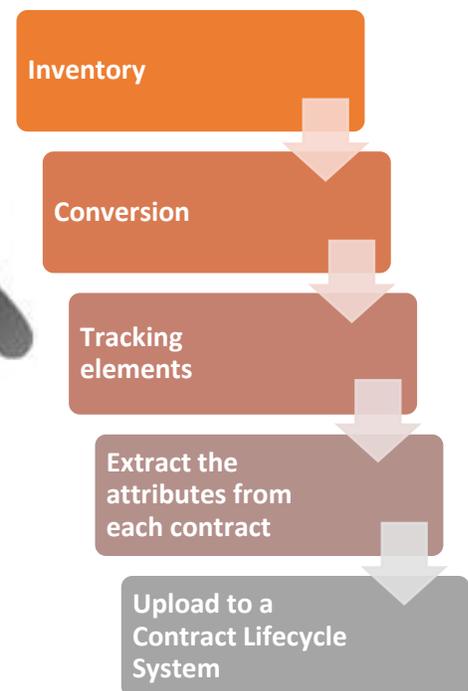
*This is where Brightleaf steps in. We are the only company that has its own semantic intelligence, NLP software which does most of the work coupled with our team of seasoned lawyers which do this extraction efficiently and to quality standards which can reach six-sigma.*

clauses and other text, even lemmas are understood by the NLP engine. Once the engine has done its work, the information, for example, which may be handwritten, or incorrectly processed from image to text during the OCR conversion is filled in or changed by the lawyers. Attributes which may be correctly extracted is checked for accuracy up to three times over, there-by giving a highly accurate extraction rate.

The information is extracted to multiple levels, depending on every client's custom needs as set out by their specific searchable attributes in the ontology. Think of this as a drill down process with the system constantly drilling down, examining relationships and terms, comparing to the ontology table and matching what it finds against the rules. An example of the clever semantic system is where there is no start date for a contract that it is searching for under the rules. In such a case it may well pick up the date of signing the contract as the start date if this is in the custom rules. In this way, all attributes become normalized thus simplifying later retrieval from a contract life cycle management system.

The extraction starts at a high level first searching for information such as names, terms and conditions, dates, monetary amounts, and other attributes you defined in your custom list. This sets each contract apart as a separate identifiable document (or record in IT parlance). The semantic extraction system then analyzes deeper into each individual contract for such attributes in the contract as non-competes, carve outs, legal issues, rights of first refusal, and then into such issues as obligations, penalty clauses, put rights, transfer restrictions, partner rights, definitions of competition, governing laws, time/date constraints and other similar defined attributes. Again, all these attributes will be defined by you for your contract information extraction.

The outcome of this process, software followed by human quality control, produces a spreadsheet of each of the attributes by the contract names, including parent-child associations. The bulk of the work to installing a CLM and getting all your contracts and its associated meta-data into the system is now complete.



### Step 5: Upload to a Contract Lifecycle System

This is the end of the journey, and a start of the new one. Most CLM's have a way to upload the documents and the associated meta-data that is extracted and put into a spreadsheet into the system. The system is configured for each contract type, and the associated meta data elements. Typically, the spreadsheet (XLS or CSV) file is mapped into each of these fields, and all the data gets populated into the

system. All reporting, triggers, information tracking etc. is now down in the CLM. The value of the CLM is highly enhanced, as it is now populated with the documents and the associated data. Without this, sometimes, the users do not adopt the new system, and investment in the CLM is then wasted.

## SUMMARY: BRIGHTLEAF SOLUTIONS BENEFITS DELIVERED

Using these stepping stones, you can get a handle around your contracts and information within them.

## THE BRIGHTLEAF VALUE

Brightleaf takes the pain related to the tedious task of extraction of meta-data elements from the contracts, away from you. Using our own technology, a team of legal professionals and our own process, we can deliver highly accurate data extraction results.

Brightleaf accurately transforms ordinary text, contracts, addendums, pdfs, memos, and any accompanying documents into searchable, sharable information for efficient business operation.

While many contracts are now delivered electronically, the data capture, especially from legacy contracts have been tedious, expensive and fraught with errors and omissions. Using clever technology including Optical Character Recognition and Natural Language Processing yields largely meaningful digital text. This significantly reduces the human error factor that results from fatigue and omission if the data had to be re-entered manually. In this way the legacy contracts as well as future electronic contracts can all be accessible in one database of searchable information.

The rules based semantic extraction software identifies critical attributes and the relationships they create ensuring that both the attribute, and its relatives in the contract data set, are identified and extracted. These knowledge-based systems ensure that all required information and relationships in a document are captured. Those it suspects but identifies as possible problems, or ambiguities, are tripped out for human review, interpretation and intervention where appropriate.

*Six Sigma reliability (99.99966% accuracy) is usually just a goal, but with Brightleaf it is a daily reality. Six Sigma is considered the highest quality standard that can reasonably be attained and as close to perfect as possible.*

The impact legally and financially of missing a contract date or overlooking a penalty clause can be crippling. This is why while the heavy lifting part of the data extraction is performed by the software system each step is monitored and reviewed for accuracy and quality by expert human oversight. Each attribute, each function, at each step, are reviewed and quality checked.

The ability to accurately convert, parse and extract the information you need for your contract life cycle management system enables you to leverage the most advantage from your investment, give you a competitive edge, minimize risk and provide upside benefits to opportunities in contracts.

## ABOUT BRIGHTLEAF SOLUTIONS, INC.

Brightleaf Solutions is a service provider that extracts files of accurate contract data, to your specific needs for your Contract Life Cycle Management System. Brightleaf works with both clients who have a CLM and vendors of these systems to provide the accurate information needed to manage contracts through their life cycle. The Brightleaf contract data extraction stepping stones system can be easily demonstrated online.

Big data, BI, and data driven decisions are having a profound effect on U.S. business operations, becoming a \$143B market in 2016. Brightleaf's vision is to accelerate this adoption with technology that overcomes the challenge of mining important information from unstructured, text-based documents and making it accessible.

Brightleaf Solutions is a minority-owned, Boston-based technology company. With an initial focus on executed legal contracts, Brightleaf opens new doors for companies to manage risk, ensure regulatory compliance, meet customer obligations, uncover missed revenue, and get meaningful insight into their customer, partner, and vendor behavior.



## FOR MORE INFORMATION, CONTACT

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