



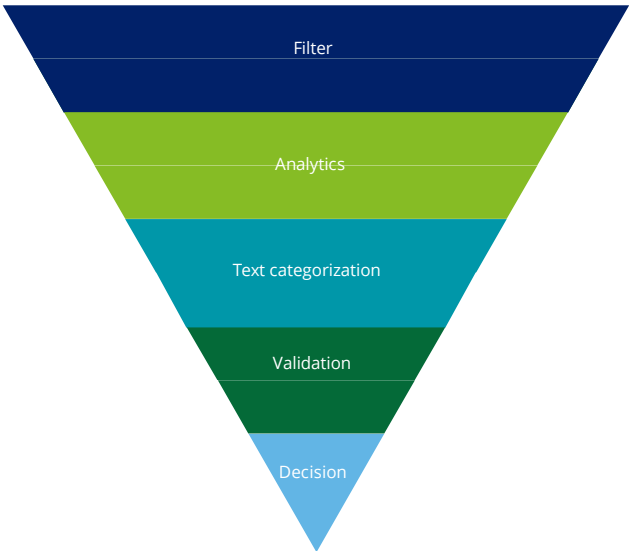
Dynamic Review

Document review in new perspective

Our discovery methodology deploys advanced analytics, including predictive coding, to enhance document review management and reduce costs. You can make more intelligent decisions without necessarily leaving your existing platform or purchasing technology.

Enhancing...

...your Review	through Text Categorization	and Validation
Dynamic Review doesn't make decisions for you. We think you're the experts at that. And your insights are the key to text categorization's effectiveness.	Text Categorization is a process we use to provide you with better insights and better use of time. And it doesn't require you to buy technology or change platforms.	Validation, the process of determining how the algorithm is performing, provides comfort and additional insight.
Our collaborative approach allows you to make more intelligent decisions by enhancing the way you choose to review documents. Early analysis and review techniques provide insights into how and where text categorization, our process for predictive coding, will be most useful, and how to implement text categorization in the most effective way.	We employ text categorization in addition to other analytic techniques to accelerate your review, as well as to provide you with a better understanding of the document population. Plus, our ability to fine-tune the algorithm application—something hard-coded solutions don't allow—can provide you with more accurate results.	Most text categorization tools validate performance through statistical analysis only. We go beyond this approach using a variety of techniques focused on identifying potential false negatives and false positives. Validation, performed properly, provides transparent defensibility and supplemental insight to refine and/or adjust review.
<ul style="list-style-type: none">• Intelligent decision-making• Faster conclusions• Confidence	<ul style="list-style-type: none">• Cost savings• Document prioritization• Resource management	<ul style="list-style-type: none">• Statistical support• Defensibility• Quality control• Visualization



Our approach

Deloitte uses a multi-layered approach, powered by text categorization and analytics, to support document review decisions.

Filtering methods, such as scoping the initial collection, deNIST processes, keyword search, date search, and deduplication, are used initially to cull the document set.

Analytics techniques, such as near duplicate identification, email threading, clustering, and concept searching are used to assess and strategize how to reduce and prioritize the review population.

Text categorization is then implemented in conjunction with traditional workflows to provide you with a deeper understanding of the makeup of the review population. Each document is scored to indicate which are likely responsive or not, privileged or not.

Validation, the process of measuring how text categorization is performing, provides both useful benchmark information as well as insights into where supplemental analytics may be useful to inform review decisions.

Review decisions can be made using intelligence gained about the review population to: further organize and prioritize review, enhance quality control, further reduce the review population, and allocate resources more efficiently.

Case studies

Text categorization in action

The Issue

Our client needed to respond on a very tight schedule to a breach of contract litigation relating to a joint venture agreement. The client needed to review a large volume of documents. Responding to an adversary's broad document request, covering documents collected from multiple subsidiaries, the client needed a solution to decrease the review volume by focusing on relevant documents.

The Solution

Dynamic Review from Deloitte helped the client by scoring documents for responsiveness, as well as privilege, redactions, and issue codes. Using sample documents reviewed by counsel, Deloitte's analytics team deployed models to score the responsiveness of all documents and to identify key responsive documents early. In addition to using Dynamic Review to identify and prioritize the documents, the team implemented other analytic tools, such as attachment range analysis, targeted review based on certain metadata, and search term v. issue code analysis.

Key Accomplishments

- 780,000 documents were reviewed, and more than 315,000 documents were produced within the requested deadline and within the client's budget
- Using intelligence gained through Dynamic Review to prioritize, order, and bulk tag documents, review rates equivalent to 250 documents per reviewer hour were realized
- Deloitte's innovative use of Dynamic Review led to cost-savings for the client of approximately 60%, when compared with a traditional linear review of the same volume of documents

Saving costs and improving defensibility through gained insight and an understanding of the process.

The Issue

Our client needed to review one million documents for a large bankruptcy case. With limited attorney resources available and a defined deadline approaching, they needed to quickly identify potentially privileged and non-privileged documents.

The Solution

Dynamic Review's machine learning techniques were deployed. Working to the clients' specifications, an algorithm based model was created and fine-tuned until Deloitte was able to 'teach' the machine what to look for.

The solution was adapted to the client's preferred data processing tool to provide simple and visual scoring reports for each document. Working within its existing staffing levels and considering all of the documents, our client was able to make intelligent decisions on which documents to produce based on privilege scores. This resulted in cost savings while helping to increase confidence and defensibility of the firm's document production.

Key Accomplishments

- The client was able to make decisions on whether or not to produce documents based on their privilege scores
- The client allocated senior level resources to review potentially privileged documents, while assigning the general population of documents to lower-cost review resources
- Cost savings from reducing the need for human quality control of the initial reviewers (where the human result and the machine result agreed)
- Increased confidence and defensibility of its document production

For more information on Dynamic Review, please contact:

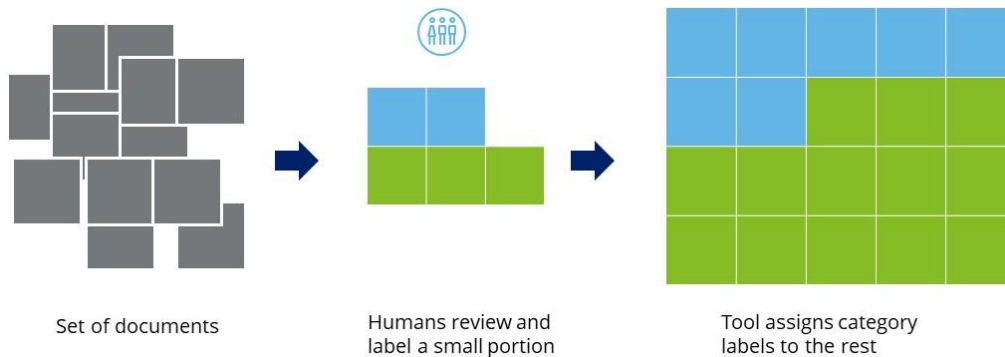
discovery@deloitte.com

www.deloitte.com/us/discovery

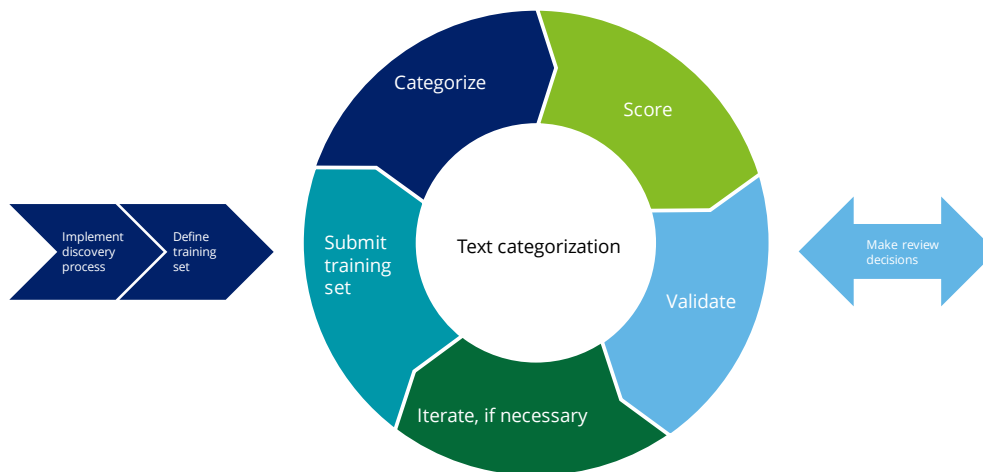
How Text Categorization Works

Text categorization breaks down documents into tokens (words) and uses them to automatically classify the documents into a set of predefined categories. It uses supervised learning—meaning the predictive model is built from human labeled documents. The model can be iteratively strengthened with fine-tuning techniques, resulting in improved efficiency and accuracy.

Text categorization uses a human reviewed training set to develop a model that scores the documents and assigns category labels to the document set.



A more in-depth look of our Dynamic Review process in which the training set represents the documents that train the model, and the validation set are the documents that measure the model's performance.



Our text categorization process was developed by The FAS Analytics Institute, a market-leading team of analytics experts from industry and academia dedicated to researching and developing our advanced analytics capabilities in text, visual, predictive and geospatial analytics. The team includes Ph.D. statisticians, mathematicians, systems and application architects, and developers, who collaborate with Deloitte FAS service lines to deliver end-to-end capabilities, including strategy, design, build, and implementation related to analytics.

The Importance of Validation

When does text categorization work for you? When you are comfortable with the results.

We don't expect you to trust statistics on their face, or to simply rely on an expert witness to justify your results after the fact.

We provide a layered validation approach that builds on traditional statistical validation techniques. Our visual and numeric cross-validation process gives you clarity on how an algorithm is performing, not only on an abstract numeric basis, such as by percentage and confidence interval, but by visually examining text categorization results. In short, we double-down on identifying false negatives—the documents that should be, but are not, produced—and false positives—those documents that are potentially, but unnecessarily reviewed and/or produced. Reducing each of these leads to reduced risk and reduced costs. That's a language we all understand.

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