The Role of Intelligent Content in Context and the Value of Concept Searching's Auto-classification Technology in the Digital Workplace

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Abstract

The basic objective within the digital workplace is to empower employees to make a business difference. However, without relevant and accurate information, this will not be possible. Automating the process of surfacing intelligent content in context solves the dilemma, by providing both a fluid environment able to change in line with business needs, and information in context at the point of need. This approach is deployed as an enterprise framework that understands concepts and inter-related content, automates processes and policies, and provides a consistent nomenclature based on an organization's own corpus of content. As a technology, its flexibility reaches far beyond improving search. This is a significant benefit in the digital workplace, as all information is connected and available to achieve digital workplace goals.

Author Information

Martin Garland has over 25 years' experience in search, classification and enterprise content management within the broader information management industry. His comprehensive understanding of the information management landscape and his business acumen provide a solid foundation for guiding organizations to achieve their business objectives using best practices, industry experience, and technology. Martin's expertise has been instrumental in assisting multi-national clients in diverse industries to understand the value of managing unstructured content to improve business processes.

He has focused on sales, marketing and general management, and has expertise in both startup and turnaround operations throughout Europe, the US and Asia Pacific. One of the founders of Concept Searching, Martin is responsible for both business strategy and North American and International operations.

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Overview

Concept Searching's technologies help clients leverage the value in their content when and where they need it. Intelligent content in context is the output of the conceptClassifier platform, technologies and products that are deployed as an infrastructure metadata layer, enabling the identification and surfacing of intelligent content in context to any business application able to consume it. Deployed across all platforms, encompassing on-premises, cloud, and hybrid environments the identification of intelligent content in context enables an organization to immediately improve application functionality and automate processes and policies surrounding unstructured and semi-structured content.

Transforming the meaning of content into semantic concepts is achieved through Concept Searching's compound term processing technology. Still unique, the compound term processing engine generates multi-term metadata and resolves the ambiguity in single words. *(See Appendix A).* Meaningful words form semantics and metadata defines which words are the most relevant and meaningful in the context of a search, an application use, or a decision point. From a search perspective, Concept Searching provides the facets and dimensions for search refinement, through drill-down capabilities and the linking of relationships between different terms, in turn retrieving intelligent content in context and thereby improving the search and business outcomes.

Similarly, Concept Searching provides a comprehensive automated classification solution that harnesses the multi-term metadata and, based upon classification decisions, intelligent content in context is used to improve or automate decision processes. The more relevant the metadata, the more valuable the content becomes, as does the accuracy of search results. Without meaningful metadata, content remains unmanaged and has no value, rendering it useless as a business asset to an organization. Identifying intelligent content in context improves applications at the tactical level such as role-based information access, forensic analysis, and ITAR compliance. The impact of intelligent content in context also results in improved top-line revenue and profitability, while at the same time improving productivity, customer service, and reducing risk.

From a financial perspective, changing or adding an application introduces a host of issues, such as end user adoption, new business processes, and an initial impact on productivity, support, and deployment issues. In short, the return on investment of many applications does not justify the soft and hard dollars. The end goal of any application is to make a better decision or perform an action more accurately or easily. The deployment of a metadata infrastructure that is able to pinpoint accurate and relevant intelligent content in context can remove the need for some of the point applications, significantly reducing cost. Auto-classification decisions can then be used to assist with migration, compliance, governance, records management and eDiscovery.

An organization will ultimately increase productivity, improve decision making, reduce organizational risk, and meet diverse metadata challenges when deploying a metadata infrastructure environment. Benefits, however, are at times rather nebulous, as most organizations do not know what their cost of poor enterprise information is, other than no one can find what they are looking for, records are mismanaged, and more security breaches occur. Real return on investment is a combination of cost savings and the business benefits achieved.

The Digital Workplace

The basic objective within the digital workplace is to empower employees to make a business difference. However, without relevant and accurate information, this will not be possible. Automating the process of surfacing intelligent content in context solves the dilemma, by providing both a fluid environment able to change in line with business needs, and information in context at the point of need.

This approach is deployed as an enterprise metadata framework that understands concepts and inter-related content, automates processes and policies, and provides a consistent nomenclature based on an organization's own corpus of content. As a technology, its flexibility reaches far beyond improving search. This is a significant benefit in the digital workplace, as all information is connected and available to achieve digital workplace goals.

The primary focus of the following information is to assist organizations in quantifying and determining the value of having accurate intelligent content in context, delivered at the point of need, as a key component to achieve corporations' business objectives.

The information includes examples gathered from experts and analysts on the cost of poor, and at time unusable, content assets, and the benefits. In some cases, savings or cost estimates have been applied. Other scenarios will require your input on how long a task takes now to calculate those savings. For example, does it take an end user ten seconds to tag a document or thirty seconds? Since the framework is flexible, we have broken up the benefits into logical business-oriented objectives found within the digital workplace. In this manner, it doesn't matter what application an organization is trying to improve, as the priority will be determined by the organization itself. Many, if not most, organizations will immediately identify the application they would chose to address first, often regardless of payback.

Efficiency in the Digital Workplace

Improve the Performance and Productivity of the Workforce, and Reduce Operating Costs

Knowledge, whether tacit or explicit, is the single most valuable asset of a company. The inability to effectively manage knowledge and leverage knowledge assets results in a high cost to not only the organization but also to customers. Improving the access and use of knowledge as well as combining access to the highly specialized expertise of professionals can result in improving organizational returns linked to that knowledge.

With the increasing mobility of professionals across dispersed geographies the challenge is to make knowledge sharing and distribution an easier and more transparent process creating a holistic view of knowledge assets regardless of where the information is stored or the location of staff. Enterprises still suffer from silos of redundant client, prospect, and historical data located in a variety of applications and diverse repositories designed to support the individual needs and requirements for a specific community of users. This inability to find knowledge assets for reuse and to eventually spur thought leadership can result in a loss of clients and ultimately a loss of revenues.

Efficiency is a combination of people, technology, and execution. These components, when working together, deliver improvements in productivity, reduce expenses, and provide the technology tools to decrease time to competency. Despite the fact that efficiency appears to be easily achievable, in the digital workplace the participation of people is the key component for execution. User adoption has been proven to cause some projects to fail when there is no perceived value in new processes, tools, or new ways of completing tasks that are more comprehensive or time-consuming. Quite simply, some users see no value in the changes and will become resistant to the point of failure, resulting in increased frustration and lack of communication.

To achieve efficiency, information must be readily available, usable, reliable, and easily accessed. Despite the phenomenal rise of personal Internet programs, end users, for the most part, do not know how to search. Many organizations are also finding that users are information-illiterate in the business setting. Despite expertise in Facebook, they lack the skills to find information in the business setting. Information literacy (IL) is one of the major causes of underutilization of business electronic information. To overcome this problem, training is typically recommended to improve the skills of the business user in finding information, which has a cost associated with it. Ideally, metadata, auto-classification, and taxonomy applications should be capable of automatically aligning the skill and experience level of the user and, where possible, removing the end user from the process, such as in manual tagging.

Tagging, Auto-classification, and Taxonomies in the Digital Workplace

Increase task productivity, reduce expenses, and decrease time to competency

In over 93% of organizations, variations on manual tagging are used to describe what a document is about. Unfortunately, it hasn't worked for the past thirty years and it doesn't look too hopeful for the next thirty. Manual tagging is typically erroneous, subjective, and often non-existent. Despite tools to assist end users, the majority will select the first option from a drop-down list, regardless of whether or not it is applicable. This results in metadata that is unusable, and information that is not able to be found. Until organizations are willing to leave manual tagging in the past, the ability to leverage metadata to obtain business advantages becomes a useless endeavor.

Why the Problem?	How Much is it Costing Me?	Intelligent Content in Context
40% can't find the information to do their jobs *(IDC)* 85% of relevant information is never retrieved in search *(IDC)* 15% is spent duplicating information *(IDC)*	More than 37% of workers spend at least 10 hours a week searching for information online *(BaseLine)* If a worker cannot find information they are seeking within 4 minutes they will: recreate it; use older content assets; interrupt a co-worker; Start without info needed; Don't start *(IDC)* At any given time, between 3% and 5% of an organization's files are lost or misplaced. Annual losses to a Fortune 1000 company with one million files is $5 million *(Information Week)*	If the median Fortune 1000 company were to increase the usability of its data by 10%, company revenue would be expected to increase by $2.02 billion *(InsightSquared)* IDC estimates a 16% savings in time per person spent searching with an effective search solution It costs $180 per document to recreate it when it can't be found *(IDC)*

Increase Task Productivity – Secure Collaboration and Reuse of information in Global Tax and Audit Use Case

Providing real-time, immediate access to relevant information is vital to this Big 4 global tax and audit firm. It recognized corporate memory was unused, information wasn't necessarily shared, and the expertise of fellow professionals for collaboration was minimal at best. The conceptClassifier for SharePoint platform aligned programs and knowledge assets, fostering the reuse of high-value content. Experts can now be found and engaged to securely collaborate, increasing speed to market, customer satisfaction, and knowledge retention.

Increase Task Productivity

Reduce time searching for information, through improved aggregation of information and intelligent content in context

- Concept-based searching requires minimal to no training, and intelligent content in context is automatically retrieved by the end user, based upon search criteria, job function, or role aligned with their security level.

Reduce time re-inventing work products by making best examples easily discoverable

- The auto-classification capability tags content and identifies the most relevant knowledge assets for repurposing and reuse. This intelligent content in context is presented at the point of need, based on the search, job function or role of the end user and the task that is being performed at the time.

Reduce Time Re-inventing Work Product in Global Consulting and Audit Firm Use Case

This global audit firm had issues with the identification and repurposing of work product and quality of information. It deployed the conceptClassifier for SharePoint and Office 365 platforms to tag and classify content, improving search and automatically identifying information that before would not have been found. Intelligent content in context is now automatically retrieved at the point of need, reducing time to market and increasing the access, repurposing, and reuse of high value content.

Decrease handoffs, callbacks and cycle time, through real-time interactions and workflow

- The ability to tag, classify, and surface related programmatic assets, enables collaboration and information sharing, inside and outside the organization. Classification decisions can trigger actions facilitating enterprise or work group projects.

Reduce Expenses

Reduce information delivery costs

- Information that is tagged correctly becomes usable, and intelligent content in context is automatically and readily identified, reducing information delivery costs for IT and non-productive time for the end user. This eliminates costs associated with the duplication of the information and the end users' time that is required to find the correct information manually.

Reduce training costs through just-in-time, point-of-need learning and access to information

- Using auto-classification, any information can be aligned to provide virtual training extracting the most up-to-date information from the corpus of content, including policies and procedures, research, or 'how to' manuals. Additionally, this information can be pushed to the user when required.

Reduce travel costs via improved collaboration and virtual meetings

- Automated tagging and auto-classification provide a collaboration platform, with intelligent content in context being made available to participants supporting the program or meeting under discussion.

Reduce IT Costs – Intelligent Migration to the Cloud ,and Unified Hybrid Search in Manufacturing Use Case

A leading global supplier of automotive parts, seeking to improve enterprise-wide search and collaboration, deployed conceptClassifier for Office 365 to perform content optimization and intelligent migration, cutting costs and time. 60 servers were reduced to only 4, by intelligently migrating content to the Office 365 Dedicated vNext platform. The organization went live in only two weeks after the general release of the Microsoft hybrid cloud search, and migrated 20 million documents now under management.

Reduce IT costs by eliminating redundancy, reducing license costs, shifting maintenance to low cost resources, reducing upgrade costs

- Using auto-classification and content optimization, redundant, duplicate, out-of-date, and legal or compliance issues that could be harmful to an organization can be reduced. In addition, following Concept Searching's content optimization, intelligent migration can assist with moving content automatically to lower cost, cloud-based collaboration and storage platforms.

Reduce internal and customer support costs by facilitating self-service and providing help desks with the right information in an intelligent context

- Provide highly tailored internal and external portals to retrieve information based on specific phrases, topics, or concepts, and provide customer service with a specific taxonomy for accessing information consistent with customer queries.

Decreased Time to Competency – Mergers and Acquisitions in Telecommunications Use Case
This US telecommunications company completed an acquisition of another organization's fixed line business. The conceptClassifier for SharePoint platform was deployed to identify and consolidate both unstructured and semi-structured data. conceptTaxonomyManager and auto-classification enabled vocabularies from both organizations to be normalized, and geographies aligned with products and services, resulting in faster onboarding of personnel, assurance of regulatory compliance, and reduced time to market.

Decrease Time to Competency

Provide robust real-time support for business processes and tools, via integrated support

- Auto-classification can be used in real time, classifying information from diverse repositories. It will identify intelligent content in context, either directly to the end user or via a search triggered by the process step within the application. This approach provides in-depth knowledge of customers, products, processes and policies, at the point of need, via an intelligent context engine, and accessed through one interface.
- Depending on the security and access level of the user, information is available via one interface and can access unstructured and semi-structured content, regardless of where it resides. This is particularly important in a merger or acquisition scenario, where normalizing vocabulary to assist in the onboarding and realigning of personnel, clients, products, geography, channels and service are key objectives.

Reduce time and cost of training on new skills, processes, and policies by quickly embedding support into the Digital Workplace

- Accurate tagging and auto-classification of content can automatically identify experts, forms, policies, processes, and training materials tailored to the user's job role and function. This approach provides information at the time of need and is relevant to the activity to be performed.

Reduce knowledge drain when employees leave, through capture of key artifacts, conversations, and knowledge

- The capture and management of knowledge assets for business return is ongoing and proactive. The fostering of a culture of collaboration sparks innovation and the sharing of information. Information can be captured from web sites, wikis, blogs, instant messaging, thread lists, libraries, and, of course, files and folders. Using Concept Searching's conceptTaxonomyManager and auto-classification technologies, content can be accurately tagged, classified, and made available for reuse and repurposing at the point of need, transforming information into a corporate knowledge asset.

Effectiveness in the Digital Workplace

Increase revenue, improve decision making, and reduce risk

Increasing revenue, improving decision making, and reducing risk all rely almost solely on a sound information governance strategy, where a key component is enterprise search. These information access technologies create a powerful business tool, yet surprisingly are often not scrutinized or evaluated during acquisition. For many organizations, content exists in numerous locations, on diverse repositories and replicated across various silos. Most end users are unable to find relevant information to support business objectives and must use multiple search interfaces, resulting in the inability to find, reuse, and repurpose information.

All these factors lead to impaired decision making and increased risk. Manual tagging is subjective at best and often lacks any alignment to the enterprise goal or mission. Studies have concluded that the same individual will tag content differently in the morning and the afternoon. This subjectivity is immediately applied to search results, causing inaccurate and irrelevant information to be delivered and potentially used.

Traditional search products force the end user to ask the right question, using the right combination of keywords, and repeat that iteration until the content is found. For eDiscovery and FOIA, highly trained professionals are adept at search techniques to try to retrieve relevant information. End users are not. This hampers the user's ability to find relevant information, reduces their productivity, and impacts the organization financially. Information cannot be used because it cannot be found, information that cannot be found has no value, and information that is hard to find is rarely used.

An effective approach allows staff to work in the most efficient and effective way possible by giving them access to information assets in a controlled and secure manner. A critical component is ease of use and transparency. If governance or information management controls are too difficult, they will fail.

Although all organizations encounter risk, risk is unique to every organization. Risk can be noncompliance with regulatory issues, cyber security, security of intellectual assets, content lifecycle management, eDiscovery and litigation, loss of sales, and the list goes on. Taxonomies are useful tools that assist an organization's staff to identify sources of risk across the enterprise. The technologies help in validating organizational risk, to aid in the prioritization of risk factors to be addressed. With the ability to identify risk, both known and unknown, organizations can weigh information value. Organizations may also want to weigh the cost versus benefit, as in some instances they may want to assume more risk, or less.

The components of effectiveness, as defined above, can assist organizations in managing risks and costs, while ensuring that knowledge workers can be productive. The organization is then enabled to not only manage content to reduce risk but to also make better business decisions and increase agility.

Reduced Risk of Compliance in Records Management at Global Resources Firm Use Case

A leading global resources company, with over 100,000 employees, realized tagging documents of record manually was a continual challenge, error prone, and highly unproductive. Using the SharePoint Records Center, it deployed the conceptClassifier for SharePoint platform to automate the process of applying metadata for document retention. Each document is now automatically tagged with a retention code when it is uploaded into SharePoint, ensuring compliance, reducing risk, and improving eDiscovery.

Auto-classification and Intelligent Content in Context

Identifying and taking action on noncompliance, underpinning governance

Content lifecycle management as a major source of risk cannot be overlooked. From creation or ingestion to archive, content needs to be vigorously managed to avoid noncompliance, audits, fines, and identification of electronically stored information that may be used against organizations in litigation. Concept Searching delivers proactive, automatic identification and notification of noncompliance infractions of laws, regulations, or contracts. The issue is that tagging is typically performed by end users, and is highly unreliable as an organization cannot expect end users to readily know all the record codes. The records management software expects to receive the right information. If the information is erroneous and accepted as valid, then the risk grows greater. Depending on the size of an organization, risk can burgeon out of control without anyone knowing it, until it is too late.

Using Concept Searching's conceptTaxonomyWorkflow, organizations can create rules to support their governance model, and, based upon an event or classification decision, take action on that content, thereby automating the classification of documents of record. In this scenario, when classification criteria are met for a document of record, a rule is triggered to send it to the records management application and to the owner of the record. And in the SharePoint environment it will automatically change the content type to the type of record, and list the multi-word terms that were used to classify the document.

Why the Problem?	How Much is it Costing?	Intelligent Content
67% of data loss in records management is due to end user error *(Prism International)* Approximately 69 percent of the data most organizations keep can—and should—be deleted *(CGOC Summit)* 31% admitted their inferior electronic records keeping is causing problems with regulators and auditors *(AIIM Survey)*	Corporations will be responsible for the security, privacy, reliability, and compliance of 85% of enterprise information *(IDC 2010 Digital Universe Study)* The average Fortune 500 companies have 125 lawsuits at any given point *(National Review)* More than 100,000 international laws and regulations are potentially relevant to Forbes Global 1000 companies. Additionally, many of these regulations are evolving and often vary or even contradict one another across borders and jurisdictions (Lorrie Luellig is of counsel, Ryley Carlock & Applewhite, PC)	At any given time, between 3% and 5% of an organization's files are lost or misplaced. Annual losses to a Fortune 1000 company with one million files is $5 million *(Survey reported in Information Week)* Companies typically misfile 2% - 7% of their records *(New York City Chapter ARMA International)* Costs $4-$7 to recreate it US managers spend an average of 4 weeks per year searching for or waiting on misfiled, mislabeled, untracked, or lost papers *(Cuadro Associates)*

Improved Top-line Results – Increased Revenue through an Insurance Sales Portal Use Case

This global insurance company wanted to improve top-line revenue and client satisfaction. It created a sales portal, offering targeted information for both direct and channel sales. The conceptClassifier for SharePoint platform and multiple, interconnected taxonomies were deployed for clients, product portfolio, geographies, and channels, enabling targeted sales and customer care. Improved servicing of clients resulted in increased top-line revenue.

Improve Top-line Financial Results

Increase win rate by arming the salesforce and customer support with better product, and customer information

- Classification of all repositories will provide a hierarchical/taxonomic view of all topics and subject areas that are pertinent to sales, products, customers, and any other information that an organization wishes to use. Once classified, it is readily available, using concept-based searching and can be tailored to the end user. For example, end user A wants sales information and end user B wants product information.

Using Intelligent Process Support to Expedite Proposals for Government Use Case

This telecommunications company needed an effective way to reduce costs of staff augmentation and increase its win rate on government bids. The conceptClassifier platform was deployed to create a metadata environment, tagging and classifying, past proposals, past performance, case studies, winning bids, resumes, project plans, competitive information, and market research. The result was reduction in response times, increase in win rates, and reduction in contract staff costs.

Decrease Time Spent on Administrative and Reporting Activities

Make information available anytime, anywhere so that people can use otherwise unproductive time

- Auto-classification and content tagging can surface intelligent content in context to any end user or application, on any device, at the point of need, thereby increasing productivity.

Decrease time spent on administrative and reporting activities by providing intelligent process support

- The technologies can be used to provide intelligent process support via an ad-hoc approach or a more formal approach that provides the information for in-depth analysis. It is particularly useful for developing a data set that matches an organization's criteria, and provides the opportunity to remove the noise, garbage, and irrelevant information. This leaves a smaller data set to perform analytics using a tool of choice, and decreases time, increases accuracy of analysis, and eliminates resources needed for a text analytics solution.

Reducing Misinformation Supporting a 24/7 Call Center in Military Healthcare Use Case

This military healthcare client used Concept Searching's search and classification products to support its 24/7 outreach center, providing information to military service members and veterans with questions about traumatic brain injuries. The support team needed to quickly find relevant and precise information to support families via the portal and call center. It was able to tag, classify and verify content, deploy to production in four weeks, reduce deployment times by six months, and save $300,000 in the process.

Reduce error rates and misinformation via increasing information currency, quality and relevance

- Using metadata tagging and auto-classification, content optimization can be performed, resulting in qualitative information that is controlled, approved and relevant, delivers improved information, validates decision making and reduces errors.

Reduce Risk, Improve Security, Ensure Compliance, and Increase the Protection of Confidential Information

Security has become the greatest inhibitor to cloud adoption and still looms as an unaddressed issue. Organizations have invested significant sums to protect their perimeters, but are not deploying mechanisms that can stop a security incident from occurring internally. Again and again, statistics prove the end user is responsible, either accidently or deliberately for the majority of data breaches. You can protect at the document level, but identifying a security violation that is contained within the content of the document when it is created, ingested, or even attached to an email provides a granular and safer approach as all privacy and confidential content will be proactively identified and protected. Attachments, faxes, scans, emails, all may contain security or confidential information that must be protected too. It only takes one person.

Intelligent Content in Context in the Digital Workplace - Security and the Protection of Confidential Information

Proactive identification and prevention of data breaches

Auto-classification Risk Reduction Use Case

This USAF command uses the conceptClassifier platform to identify real and potential security breaches at its medical treatment facilities. Automated classification identifies data privacy information, such as PII and PHI, as well as confidential information, enabling corrective action to be taken. Since installation on the intranet ten years ago, data breaches have been eliminated, and vulnerabilities identified before they occur.

The metadata framework and conceptTaxonomyWorkflow provide the tools to proactively prevent data breaches and identify existing vulnerabilities. Although most security software solutions provide the standard descriptors, Concept Searching also provides the ability to associate text with the descriptors. Organizations are not limited to the standard descriptors such as credit card number, PII, PHI, or social security number. Using Concept Searching tools, an organization can define any content that is uniquely confidential to the organization, such as financial information, engineering drawings, sales and competitive information, or new product information. This flexibility allows rules to be constructed to remove the item from search, send to a secure repository or an application, prevent portability, or send to the person responsible. Additional rules can be defined to further process the content in question.

Why the Problem?	How Much is it Costing?	Intelligent Content in Context
88% of security breaches are attributed to negligence *(Wharton Information Security Best Practices)* 80% of employees use unsecure file sharing methods, putting corporate data at risk *(Workshare)* Hidden data in documents accounts for the highest number of exposures	The average cost of a data breach is $4 million, and 70% of data breaches are caused by internal employees *(Ponemon Institute and IBM)* The average cost of a record involved in a data breach is $158 *(Ponemon Institute)* Brand loss averages $3.3 million plus the cost of the breach *(Ponemon Institute)*	Elimination of manual tagging ensures content is shared by authorized staff Eliminates help desk issues, inbound communications, investigations, remediation, legal costs, product discounts, to mitigate breach and loss of brand – average cost is $1.07 million *(IBM)*

Reducing Cost of Quality by Harvesting Lessons Learned in the US Military Use Case

Our US military client collects mission-related information, after action requests and lessons learned. It built a Human Performance Clearing House using SharePoint and the conceptClassifier platform. Content was tagged and classified in real time, and aligned with known issues, products, regulations, and guidelines, enabling relevant information to be used to identify and address human factors and product obstacles in the supply chain.

Increased Compliance to Policies and Processes – Effective Information Governance Use Case

A global, integrated design firm, needed information to be accessible enterprise-wide. The conceptClassifier for SharePoint platform created a metadata framework, enriched content, and maximized the effectiveness of taxonomies, so improved search. The consistent and unified search experience delivers effective information governance, security, and identification of documents of record. The firm created global taxonomies in just two weeks.

Reduced Risk by Making Better Decisions in Upstream Oil and Gas Market Use Case

A global oil and gas company wanted to provide geophysicists with accurate data for research and analysis. It deployed the conceptClassifier for SharePoint platform for all upstream technical functions, resulting in 50 integrated technical and geospatial taxonomies, accurate and timely information to 5,000 geophysicists globally, used for research and development, so retaining and repurposing knowledge, and reducing drilling and exploration costs.

Reduce cost of quality by harvesting lessons learned and sharing past process improvement projects

- With all content tagged and classified, information from areas such as manufacturing, field service, client call centers, sales, marketing, and product vendors can be aligned, and intelligent content in context is made available, facilitating decision making and lessons learned, creating continual improvement.

Increase compliance to policies and processes by providing easy access to standards, process steps and examples at point of need

- Compliance, processes, and enterprise policies are automated where it makes the most sense. These actions can be automated through auto-classification, and the end user is removed from the process. This ensures no records are omitted or mistagged.

Help the workforce make better decisions, through providing analytical insights and best practices

- As content is structured by concepts, analysis will be facilitated and best practices can reside as a taxonomy node or in taxonomies. This becomes a knowledge asset as new employees are hired and expected to perform as quickly as possible.
- The more relevant information employees have access to, the shorter the learning curve. There is no limit to the number of taxonomies an organization can have, providing flexibility to deploy very granular or broad taxonomies covering a few or many topics.

Customer Satisfaction in the Digital Workplace

Enhance Customer and Employee Satisfaction, Value Perception, and Loyalty

Customers and prospects expect personalization, responsiveness, competency, and convenience from their vendor or potential vendor. A disconnect typically occurs with financial investment decisions because customer satisfaction, loyalty, and advocacy are key to an organization's success, and are rarely expressed in financial terms. There are clear business gains that can be achieved from maximizing customer satisfaction and strengthening the link between customer and employee value, satisfaction, loyalty, and profit. Ideally, an organization should establish a financial framework for customer-driven value creation.

Typically, there is a 25% drop in loyalty among customers who experience a problem. In revenue terms, this can be the equivalent of losing some, or all, of the revenue from one in every four customers who have experienced a problem. Poor customer satisfaction leads to disenchanted employees, resulting in lowered standards of care and efficiency in providing the right answer or information to clients. Employee dissatisfaction can also be measured in financial terms. Problems or concerns impact productivity and the productivity of colleagues, product and service quality, customer satisfaction, attendance, career advancement, and staff retention.

Since customer satisfaction and employee satisfaction have such a direct influence on each other, when correctly managed, these can be reversed to achieve a positive influence on profitability and growth. Conversely, endemic dissatisfaction can quickly spread and lead to increased costs, reduced profits, and corporate decline.

The metadata environment can identify intelligent content in context, resulting in accurate and relevant information throughout the sales and service life cycle. Related information comprising account information, relevant products, market research, regulatory compliance policies, and support information can be made available. Sales, support, delivery, installation and service personnel can all engage with the client, in the full knowledge that they are communicating accurate and relevant information, ultimately resulting in improved customer experience and loyalty.

Why the Problem?	How Much is it Costing?	Intelligent Content in Context
83% of commercial companies believe their revenue is affected by inaccurate and incomplete customer or prospect data *(CTMA)* The most common cause of contact data accuracy issues is human error (*Ringlead)* 50% of support representatives don't answer the questions they are asked *(Huffington Post)* 63% of organizations lack a coherent, centralized approach to their data *(Experian)*	Research indicates that as many as 50% of your customers may be experiencing problems, yet only 5% will make a formal complaint *(CTMA)* 57% say data quality issues are detected when reported by employees, customer or prospects (*ClickSoftware.com)* $83 billion is lost per year in due to defections and abandoned purchases brought on by poor customer support (*ClickSoftware.com)* 61% go to competitors because of bad customer service *(Huffington Post)*	Companies implementing data quality solutions see a significant increase in profits, among other benefits *(CTMA)* 9 people out of 10 will pay more for good service (*Ringlead)* 70% of customers will continue to do business with you if you solve a complaint (*Ringlead*), but 61% will go to a competitor because of bad customer service *(Huffington Post)* 25% drop in loyalty among customers who experience a problem. In revenue terms this can be the equivalent of losing some, or all, of the revenue from one in every four customers who have experienced a problem *(CTMA)*

Increased Customer Satisfaction – Accurate, Verified, Intelligent Content in Context delivered by Global IT Research Firm Use Case

This provider of market intelligence and advisory services for the information technology market needed to deliver qualitative, verified content in context for its 1,100 analysts and clients. The conceptClassifier platform was deployed to build a metadata environment for all research and published information for its analyst and client facing portals. The ability to now identify intelligent content in context ensures accurate and relevant information is retrieved at the point of need. Only 6 months after the deployment of the metadata environment, client satisfaction increased from 62% to over 80%.

Increased Customer Loyalty – Targeted Information Portal at a US Cancer Center Use Case

This US-based, leading cancer center created an online patient portal, to further increase patient care. 60,000 patients and care givers needed accurate, medically sound and relevant information to their specific health situation. It deployed the conceptClassifier platform and conceptTaxonomyManager, to support a patient portal, delivering highly specific and relevant information to the patient. Within weeks of going live, the client retention rate on the portal had increased from 63% to 80%, and within a year to over 90%.

Increase Customer Satisfaction

Increase customer satisfaction, via a more engaged selling process and improved customer service, consistency, and quality

- Accomplished through taxonomies, both customer service and the selling process can be improved through access to information that is aggregated by topic (concepts) and can be accessed either through a search string or through navigational aids. The taxonomy ensures consistency, improves quality of the information as at some point it is vetted, and increases the productivity of sales or support. This also builds a relationship of trust and improves perception that the organization and its information are reliable.

Enhance customer and employee satisfaction, value perception, and loyalty

- Both groups seek accurate, consistent information quickly. For this to be accomplished, all employees who touch a customer must be able to provide useful information in a sales, support, or product scenario. The organization needs processes in place if the staff member is unable to answer the question or does not have the requisite security to access the information, the client is then connected with someone who can.

Reduce attrition by shifting work to higher value tasks, supporting performance at a higher level, and better acclimating new employees

- The metadata environment identifies intelligent content in context at the point of need. Intelligent portals can deliver in context information to the end user based upon a process being triggered or an application, reducing time taken to search for information. Similarly, new hires can be provided with appropriate guidelines, regulations and forms to assist on boarding and acclimation. In both cases, frustration is decreased, while productivity and employee retention is increased.

Increase customer loyalty via better understanding their needs and fulfilling them

- The metadata environment retrieves intelligent content in the context of the customer. Sales, service, financial, and market information can be combined to automatically push relevant information, based upon the needs and requirements of the particular client.

Conclusion

The digital workplace term was coined back in 2001. It is now maturing and evolving into what it will eventually become. For now, the digital workplace requires people engagement, collaboration, finding and sharing knowledge and information, end user friendly business applications, and agile working. Depending on the definition adopted, it can mean much more, or much less.

The fabric of organizations is made up of business applications. Agile working, the ability to work anywhere at any time, has been in use for decades, but now has new technology requirements for organizations to provide ubiquitous access, from any device, and has now moved back to an evolving stage. The two major components that remain are people and information access. For the digital workplace to succeed in achieving business benefits, the culture of an organization is the pivot point. If the culture does not encourage proactive participation in the workplace by employees and task ownership, it will fail.

Concept Searching's conceptClassifier platform and products remain unique in the industry. Compound term processing provides the ability to automatically generate multi-term metadata, auto-classify multi-term metadata to organizationally taxonomies, and Subject Matter Experts are provided with powerful tools to manage the taxonomies.

Because of the unique technology, compound term processing provides the ability to generate intelligent content in context. This has been used to solve many challenges, including search, records management, protection of confidential information, migration, content optimization, collaboration, eDiscovery, FOIA, knowledge management, content management, and text analytics.

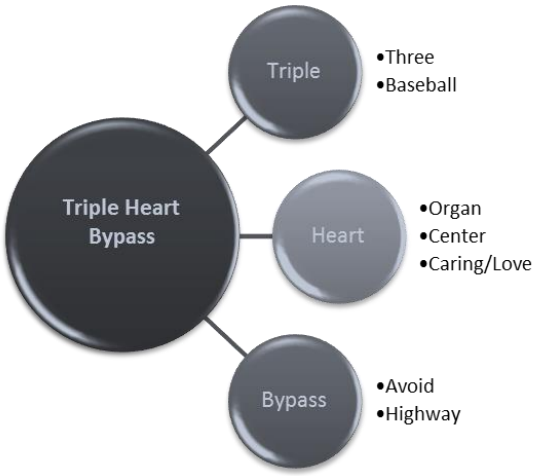
End user tagging is eliminated and delivers an immediate impact on productivity and reduction of errors. The taxonomies provide a logical hierarchy of topics and, because they are managed by subject-matter experts, can be tuned to be as granular as the organization requires. Deployed in as little as a few weeks, the organization and staff typically recognize the business benefits immediately.

The digital workplace requires the appropriate technology tools to provide the support of end users. Without an enterprise information framework, elimination of end user tagging, and the ability to improve any application that uses metadata, information remains without value. Information must be trusted, accurate, secured, and transformed into knowledge assets that are immediately accessible, to achieve the benefits the digital workplace promises. Intelligent content in context, surfaced at the point of need, is able to fulfill that promise.

Appendix A - Compound Term Processing

Concept Searching's industry-unique compound term processing technology delivers outcomes that are not achieved by any other classification engine. Compound term processing means that Concept Searching's statistical engine can understand, out-of-the-box, the incremental value of keywords, multi-word fragments, and compound terms. As a result, it can identify concepts resident within an organization's own information repositories that are highly correlated to particular topics. With the identification of these highly correlated topics in the form of keywords, multi-word fragments and compound terms the result is automatically generated intelligent metadata that is unique to the organization. By using these compound terms in any application that requires metadata, the outcomes are highly accurate, because the ambiguity inherent in single words is no longer an issue.

In the graphic below, compound term processing is illustrated. Each word - triple, heart, bypass - has several meanings. In a typical search the retrieved information would contain information about all meanings of each word, or use proximity matching, or algorithms used by the search engine or tool. Using compound term processing, it identifies that the words combined, triple + heart + bypass form a concept and will retrieve documents about the subject. It will also identify similar documents about the subject even if the search words are not found. For example, it will return documents that may contain 'heart surgery', 'coronary artery bypass', or 'open heart surgery'.



About Concept Searching

Concept Searching is the industry leader specializing in semantic metadata generation, auto-classification, and taxonomy management. Concept Searching has a Microsoft Gold Application Development competency, and offers a complete suite of platform-agnostic content analytics, insight, and discovery solutions.

The award-winning technologies encompass the entire portfolio of unstructured information assets in on-premises, cloud, or hybrid environments. Clients have deployed the intelligent metadata enabled solutions to improve search, records management, identification and protection of privacy data, content optimization, migration, text mining, and eDiscovery.

Concept Searching is headquartered in the US with offices in the UK, Canada and South Africa. For more information about Concept Searching's solutions and technologies, visit www.conceptsearching.com and its Blog, and follow on Twitter and LinkedIn.

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