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A PROPOSAL ON ENTERPRISE CONTENT MANAGEMENT

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ABSTRACT

There is a recent technological drive from document management to content management. The greatest challenge in managing the content across the enterprise without losing its value, semantics and the relation between the content. The next important implication is how to infer from the content or how to make the content as a drive for decision making in an organization. There are platform and practices to plan, schedule, publish the content with the right process of review and editing. How to automate the whole enterprise content management with the minimal effort is the million dollar question. More than this, how to set the link between the content, how to derive the semantics of the different contents, how to make the relevant access to content on the given keywords. If we consider these are the internal issues, the issue of Search Engine Optimization ranking with the content on its own is called as organic search. The content needs publication and promotional intelligence as well.

Keywords: enterprise; content; Sharepoint; management, business intelligence

I. INTRODUCTION

There is a paradigm shift from document management to the searchable published contents in every organization. The focus on document management is to manage the information and data for reference[1]. But, the organizations one point of time realized

a) The link between information is more important; the correlation means a lot.
b) The re-use of information is required and the organized storage of searchable content is more important.
c) The information from data and ontological relations between data should be auto generated, the resultant auto generated reports, inferences and alerts are to be escalated for business intelligent decision.

This thought flow is the reason behind the interrelated enterprise content management with more more workflows, linked lists, auto generated reports, alert mails – SMS, policies, rules and indexed asset management with the privilege access in an organization. This work will focus on the various contents required to be managed in an organization, challenges in the platform, presentation of data model, software engineering and organization wise processes involved in the enterprise content management[2].

We propose a proved work on the enterprise content management with the simple configurable template on the Sharepoint to perform this. The easiness is compared with the other content management and direct Sharepoint platforms. The usefulness of the information generated, reports created, alerts are validated against the business needs.

II. DIFFERENT TYPES OF CONTENT IN AN ORGANIZATION

Irrespective of the policies and procedures, every enterprise data can be classified as in the figure 1. Here the integrity of data is more important. For example, An employee login time and log out time , timesheet for activities is the source for billing to the client, his utilization or occupation ratio finding for the project manager, performance analysis for the HR to decide on the benefits of the year, project costing for the accounts department and the factor for determining the cost to sell for the sales department. The question is whether the timesheet data

entered by the employee for the various assigned tasks by the team lead are interrelated with all the other department system and the data is readily available for any auto report generation[3].

III. DIGITAL ASSETS OF AN ORGANIZATION

The organizations' various logos designed and decided, different policies, vision, mission, prior site content, source code repositories, client remarks, project execution summary – all the contents need to be properly published with the relevant privilege management mechanism[4]. The record keeping of the organization visitors, guests, parties, administrative employee reports on the office blue color workers' details of every day, asset management of when what is purchased, is there any service level agreement available?

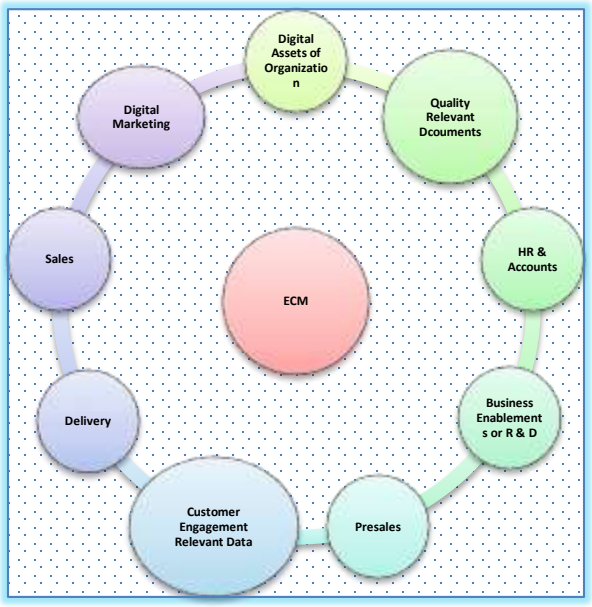

Figure 1: Various Types of Contents in an Enterprise

The challenge is: whether all these details associated with an asset are interrelated, readily available for reference and easily accessible on the critical period for the relevant person. The available assets are to be classified, categorized and published in an organized fashion with the clear interlinks and tags for search enablement[4].

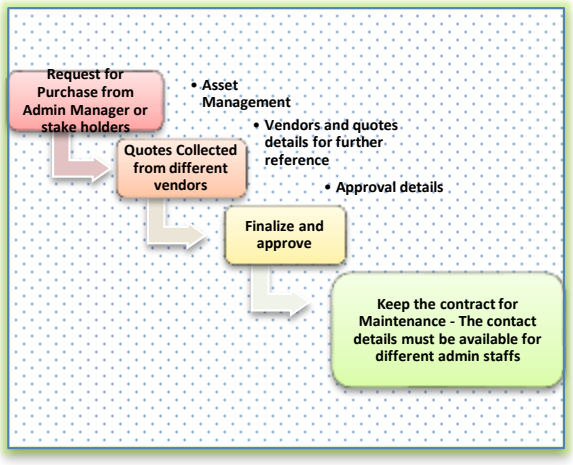

Figure 2 : Asset Tracking by Administrator in an organization

This gives indirect revenue to the organization by summarizing expertise to win bids with minimum cost and effort, execute projects with minimum development and timely delivery of high quality product with client satisfaction[3,4].

IV. Quality Relevant Documents

Even small organizations now a day create and maintain clear policies, procedures, templates for ensuring the quality of the product or project which is getting developed. It could be ISO, CMM levels or any other TOGAF kind of technical frameworks. Here they have a clear vision, mission and the corresponding policies to achieve it.

The Policy is the high level definition of what they require in a particular process or activity of an organization. The procedure gives the step by step instruction of how to achieve the policy definition and the templates supports or facilitates to carry out the procedure. Here the challenge is this organization recommendations is to be communicated to the employees at various levels[5]. The employees are to be trained and product, project, division wise customization or conventions are to be defined based on client needs and project type. So that, the verifications could be on the definition of the quality procedure specific to the project Quality Management System.

Table 1: Content Process Overview of Quality Management System

S.No	Format No	Process
1.	ORG-QM-QMS	**Quality Manual**
2.		**Process Manual**
	ORG-COD-QMS	Control of document
	ORG-COR-QMS	Control of Record
	ORG-CPA-QMS	CA & PA
	ORG-IQA-QMS	Internal auditing
	ORG-CNC-QMS	Control of non-conformance
	ORG-MRQ-QMS	Management Review of the Quality System
3.		**Software Process**
	ORG-SDP-QMS	Software Development
	ORG-CMP-QMS	Configuration Management
	ORG-SMP-QMS	System Maintenance Procedure
4.		**Human resource System**
	ORG-HRP-QMS	Human Resource Process

There must be the stakeholder team of the employees at various levels with different quality management roles to represent the quality team in an organization. Mostly, the quality team conducts the internal audit on every project in the frequent intervals and report the non conformances (it could be major, minor, trivial or suggestions) for not adhering to the policy, procedure or template definition accepted by the project[6]. These non conformances are to be closed on or before he specified dates. Iteratively the procedure is improved and templates are refined. These are getting published from quality team and get communicated to the employees. Now from the date of publication, all the teams should adhere to the new procedures. The external audit from the external team confirms the adherence of randomly selected projects for the "quality procedure".

Here the challenge is the intactness of the data and finding at any point of time how many percentage a project is adhering to the quality policies of the organization, what are the major non conformances pending and the reason (lack of resources, tools or platforms preferred by the client is not supporting it). This is called ***Information life cycle management***.

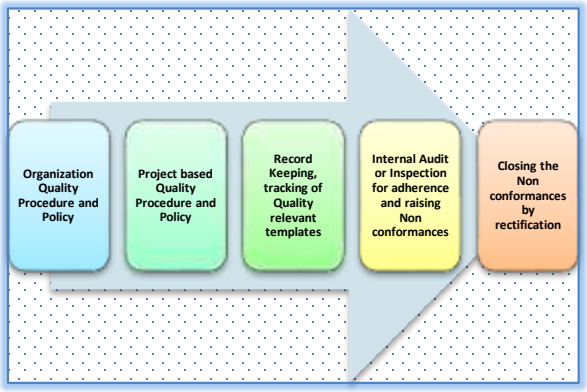

Figure 3: Quality Manual relevant processes

V. HR AND ACCOUNTS

Since the interview, joining procedure to exit interview process, the entire employee records are to be maintained by the HR department. The performance tracking for performance appraisal is to be received from the concerned manager to track the employee welfare, his career aspirations. The best employee awards, on-site opportunities, compensations expectations, performance evaluation everything are to be considered by the HR for the employee welfare[7]. The skill set of every employee assessed by the concerned reporting authority is to be tracked for the immediate client side deputations or any new opportunities.

The travel, billing, customer invoices, employee compensation, advertisement expenses, cab booking and dinner costs on late nights, team outings, awards – functions, on site travels, client visit expenses all are to be tracked by the accounts department from admin,project manager or cost center to validate the project cost with the budget and to realize the revenue on a project at any point of time to the management.

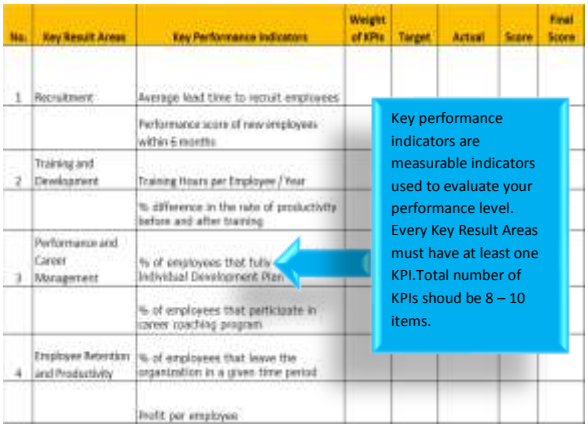

Figure 4: KRA – KPI track for Performance appraisal defined and tracked by HR

Is there a clearly defined dashboard that connects all the details of the concerned department entries and integrate them to ***auto derive a meaningful information*** at any point of time[8]. One step further, this auto generated reports on the available information, can it be sent to the customers?

VI. BUSINESS ENABLEMENT OR R & D DIVISION

Every organization has a specialization which they might have earned out of their own experience. This expertise is the distinguishing factor for them in the market, which makes them serve their clients with the minimum effort and cost. This expertise could be the domain intelligence, clear processes, the developed frameworks , code generation tools, site generation prototypes, design strategies, formats or forms of data collection, predefined automated test cases, technically excellent components, products themselves to be customized to customer needs. The use case could be analyzing the prior similar projects for the estimation of time and cost to the new client on a critical case of 'Ball Park' estimation in bidding. Reuse of the technical component (For example, searchable text box) to reduce the cost of the new project. Usually every organization has the technical knowledge repositories with the Components of Excellence, every project has the closure records which say the lessons learned and best practices derived[9]. But, usually these are junk and not interpreted, summarized under clear vertical, domain, technical, client categories. So the search on the published content gives the relevant data.

VII. CLIENT COORDINATION OR CLIENT ENGAGEMENT MANAGEMENT

In the corporate world the clients are considered as GOD. Their preferences and moods are to be taken seriously and every word of their choices is to be recorded clearly and mutually agreed and any change in the agreement is to be tracked evidently managed by the change management system for cost estimation. Any new change after the agreed scope needs the engagement manager and client approval if it crosses the threshold cost decided. The project execution mode again varies from time and material for the fixed bid model.

The scope baseline, requirement logs (functional, business requirements – blue books), frequency of delivery, user acceptance test results, the CSAT score (Customer SaTisfaction score) all are to be stored with the semantics involved in tracking the "health"of the project.

Figure 4 : Typical Chanage Management System Template

Every meeting's minutes are to be recorded with participant list, action items with timelines and circulated to the concerned higher officials. The possible other projects for the client is to be explored by knowing his business and matching the organization skill set strength[10]. The so called account building, starts with the great customer satisfaction and neat communication for convincing them. But, all these needs the distinct entry of facts and timely reporting.

The communication channel between the teams are to be clearly set and the communication items are to be tracked without fail for later reference. One of the possible use case for this could be prioritization of the product backlog items as per the current deliverable need in the recent release from the on-site coordinator to the product manager which could be the entry point to decide on the product road map and sprint items.

Table II: Typical Behavioral Tracking in an Organization

Ratings					
	1 = Poor	2 = Fair	3 = Satisfactory	4 = Good	5 = Excellent
Job	☐	☐	☐	☐	☐
Coments					
Work Quality	☐	☐	☐	☐	☐
Comments					
Attendance/ Punctuality	☐	☐	☐	☐	☐
Comments					
Initiative	☐	☐	☐	☐	☐
Comments					
Communication/Listening Skills	☐	☐	☐	☐	☐
Comments					
Dependabilit	☐	☐	☐	☐	☐
Comments					
Overall Rating *(average the rating numbers above)*					

The information flow and frequency of communication are to be decided on the yearly or quarterly plan of the product or at the engagement in the case of the project.

VIII. Delivery

It consists of the core teams of development, design and testing. In most of the organizations, the teams are grouped as per the verticals or domains of health care, insurance, share market , investor services, manufacturing, banking. In some of the organizations, the grouping of the team is based on the technical expertise, J2EE, Microsoft.NET, Open source, Mainframes and Legacy systems, Enterprise servers. There are some shared resources like training , business analyst, quality team,research and development, designing teams across the organizations[11].

Every product or project starts with the requirement initiated by the client or the stakeholder by a single line mail, then business requirement collection, functional requirement collection. With the business analyst exploration, the requirement log is prepared with the unique numbering. The scope baseline is defined and mutually agreed between the delivery, testing, business development, the stakeholder and client teams. The technical platforms, communication mode – frequency, deliverable with the timeline, duration and cost, billing, invoice details, high level head count and estimation are derived in the Statement of Work (SOW) document. Once the statement of work is signed mutually, the project or product manager request for the resources for the team formation.

The team members resource calendar are checked for the commitment of the team member for the duration of the project

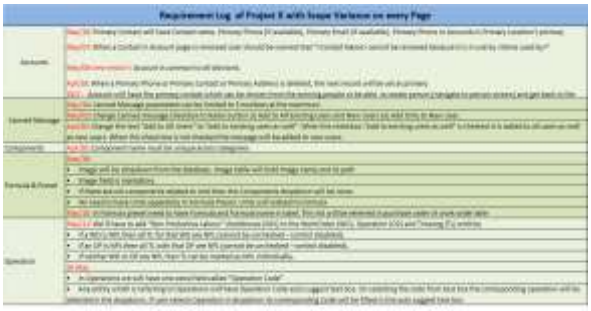

Figure 5: Typical Requirement Log (Iterative requirements from Clients - recorded with timeline)

Once the team is approved by the senior management, the kick-start of the project happens with the representation from every team architect, testing, quality, design, content teams along with the development team[12]. Then in parallel, the functional requirement document, requirement log are converted into the technical architecture and design blue book, budget, project plan, sprint plans, design prototypes, test plans and test cases.

The collaborative work environment should have the repository of published contents of above discussed artifacts, minutes of meetings, event recordings with all the project relevant digital assets. The repositories should be searchable. The challenge is how the thread between the artifacts are maintained to prepare the business intelligence reports. One use case could be how many sprints slipped in the delivery and the reasons for that, the requirement traceability matrix, scope variance index, invoices pending from clients, bills raised by the team manager so far are some of the key searches from the management of any project at any point of time.

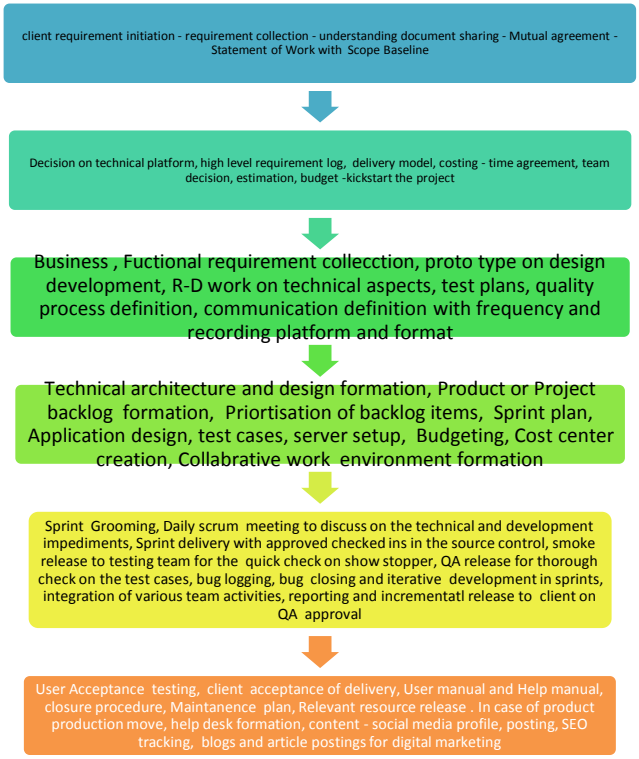

Figure 6: Sequence of Activities and Artifacts involved in a Typical Delivery Process

XI. Sales and Digital Marketing

As the online platform become the platform for sales, as well every vendor search in the net for the review and the reputation of the product, the digital marketing becomes more essential for any product of the organization. It helps the product owner to reach more clients and share their uniqueness of service to the customers. Every year, the product digital marketing plan and strategies are prepared which are executed, reviewed and altered by the concerned team members.

Figure 7: Typical Burn down report of the sprint from the manager of the senior management

As per the plan and strategy the content preparation, preparation-plan is made and social media contribution is prepared after a lot of research by both creative writers and the design team. The prepared content is reviewed and approved by the marketing head.

Figure 8: A sample business case study - Sales material

Along with the architecture, the solution offered and the development results the case study is shared with the client. The corrected and approved content is scheduled for publication and published ones are tracked for number of visits, number of likes, navigation from digital content to the product site. This helps to redesign the content and titles as per the current search engine mechanisms. Here the validity of a measure of improvement of product business of the digital media marketing to the amount spent on the digital media marketing and search engine optimization is one of the management observation for planning and allocating budget for the next quarter digital marketing budget[13]. Usually, sales materials or artifacts are made from the existing products or projects with the business use cases, flyers, web materials or presentations on the service offerings. The sales and marketing team usually participate in different forums and invite clients and customers in finding the new avenues of the business. The sales projection, digital marketing, SEO activities and the sales realization, the reason for slippages need every fact to be recorded from the different departments and there is a need for the platform to facilitate the

IX. CONCLUSION AND FUTURE DIRECTION

Here we have discussed about the different types of organizational process wise work flows, artifacts and their interrelations, the need for the auto generated reports and alerts on the inferences from this data. Some of the use cases of the enterprise real world scenarios are discussed here. It clearly indicates,

1. Platforms and Tools to track the enterprise searchable published content with the privileged access
2. The template of the content (what to be included – data model)
3. The workflows, auto generation of reports, alerts enhancements
4. Team to sincerely enter every fact in a timely manner on the decided factors
5. Team to verify the integration of data and validate the content for authentication and relevance.

There are plenty of content management software like Wordpress, DDN and software solution from IBM like big vendors. But, most of the software does not solve the entire organizational content needs. So, every organization invests lots of time to uniquely derive and develop their own standards for the software development. The greatest challenge is the continuity of the team and consistency in the quality of the content management. As the organization develop their own system, none of the standard is implicit or made necessary, all are users's choice. So, the conventions are not unique. We need the standard platform, template, standards, conventions, processes and efficient team to manage the so called enterprise content efficiently. We are developing the Sharepoint framework that facilitates and on its own takes care many aspects of the Enterprise content management. The templates, standards, linked lists, workflows, search tags, design, plan,auto publish, track, report generation all together built in with the above discussed features which can be customized to the organizational need. The proven results and customer customization encourages us to proceed further with the fine tuning of the template. In the future, we want to publish the share point framework with the one or two business use case customization. The most recent version of Sharepoint has the support of most of this feature.

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