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Corporate Amnesia in the Micro Business Environment

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***Abstract*—Corporate amnesia is a phenomenon that has persistently threatened the livelihood of business organizations and their success in commercial activity. Several substantial studies on this observable fact have been undertaken with focus primarily aimed at the large corporations and the small to medium sized organizations. This vulnerability is however evermore present and significant within the smaller of businesses. In the micro enterprise, the impact of corporate amnesia is realized when even a single member of staff is absent for any lengthy period of time or vacates their post altogether. With more than 80% of the workforce in the US and separately in the UK directly engaged within a micro enterprise, the competitive benefits that can potentially be realized by addressing corporate amnesia is significant. This paper will identify the main causes of corporate amnesia within the micro business environment and propose a suitable framework for the enterprise to effectively facilitate the adoption of Knowledge Management and realize the associated competitive benefits.**

I. Introduction

THE information economy has brought about a new wave of opportunities and challenges that have the potential to give organizations a competitive edge over their market rivals. Knowledge Management (KM) is one such potential opportunity, and although the grouping of such terminology is relatively recent, its concepts and methods have been in existence since time immemorial [8]. At a conceptual level, the management of knowledge is represented differently by academics and industrialists. However, it is generally well-agreed that fundamentally KM can deliver operational efficiency resulting in financial benefits to commercial activities. *Blair & Wallman* [3] found that properly implemented KM projects do result in substantial returns on investment (ROI), and *Stankosky* [20] determined that KM has the ability to enhance the performance of an organization by positively influencing intellectual resources.

Today, KM is generally accepted to be represented by a cycle, with iterations commencing with the identification of existing knowledge, and subsequently followed with planning the knowledge to collect, processing of the actual selected knowledge collected, distribution of new knowledge to where it is required, fostering the usage within the organization, controlling and maintaining its use and finally disposing of it when it is no longer required.

A. Corporate Memory

The storage of all knowledge pertaining to an organization is commonly referred to as Corporate Memory (CM). It is the result of collecting, storing and organizing knowledge in a way that it becomes of use (and consequently of value) to the organization. *Dalkir* calls this the repository of organizational knowledge [6]. Inversely, Corporate Amnesia (CA) is viewed as the loss of this organizational knowledge as a result of factors such as staff mobility, absenteeism, shift work and various others. *Kransdorff* describes CA as the failure of an organizations ability to efficiently and effectively use its experience and historical activity to its advantage [12]. This inevitably results in repeated mistakes and at times embarrassing and easily avoidable blunders. The CA phenomenon is further highlighted by *Tiwana* who states that organizations are not aware that they know what they already know [21].

Field describes a case where a large company was forced to withhold the launch of a product due to technical problems, only to find after their competitors beat them to the market, that they had developed a solution to this technical problem fifteen years earlier [10]. In a 2006 report, *Noria Corporation* forecast that by the year 2010, 60 percent of experienced managers will retire from the oil and gas industry resulting in the loss of an incalculable wealth of knowledge [17]. Similarly, NASA has publicly admitted that the knowledge of how to put a man on the moon has been lost and had it to attempt putting a man on the moon at any point in the future, all the research toward that objective would have to be redone [6]. *Andrade, et al.,* hence concludes that the benefits of KM can only be realized if a form of corporate memory is in place [2].

B. The Micro Enterprise

In contrast to the resources of these larger organizations, smaller firms – particularly the micro enterprise, face a rather different reality. Although the staff compliment is much smaller and therefore also the collective knowledge present within the organization, the share of knowledge per capita is often overlooked. In addition, the major economies of the world consist of a very high percentage of micro enterprises [23,24].

An organization that has a research department composed of a team of staff can share knowledge between them; hence if one member is absent other members of the team can utilize their combined knowledge to continue the work.

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Conversely, a smaller organization employing only a single person for research would consequently be crippled if that person left the firm or is absent for any significant amount of time. Moreover, the limited resources found in the micro enterprise results in the excessive reliance on tacit knowledge. Thus implies that a micro-sized organization is consistently on the threshold of corporate amnesia with even the slightest of influence. Since staff members gather and harvest critical knowledge on the way processes are executed and how practices are applied without redundancy, the impact generated by the departure of a staff member inevitably yields severe knowledge gaps within the organization [4]. Moreover, current KM systems administratively overwhelm the micro enterprise and are as such a major contributor towards the reluctance factor this size of organizations face in employing KM systems. Hence, the micro enterprise typically reverts to over reliance on tacit knowledge and unconditional exploitation of generic knowledge found through internet resources.

Following an analysis and review of related articles in literature in Section II, this paper will address the issue of CA by initially identifying the main causes within a micro enterprise in Section III. Section IV will subsequently focus on the Knowledge Capture aspect of the KM cycle - Identification, Planning and Acquirement, since this is the most significant obstacle encountered by micro enterprises when attempting to employ KM to protect their organizations' memory. Finally, Section V will conclude this article by deriving the conclusions of the proposed framework.

II. Literature Review

The essential value of Corporate Memory to an organization was highlighted by *Dalkir* [6], with further research by *Kransdorff* adding detail to the concept by expanding its boundary of benefit [12]. This results in a definition and understanding of its common occurring converse Corporate Amnesia [12]. *Tiwana* [21] accents the reality that most organizations are unaware of the knowledge they possess [21], and confirms this by actual cases of corporate amnesia [6, 10, 17]. *Brossler* [4] undergoes a study to explain knowledge gaps derived as a result of staff mobility, a concern which *Moteleb* identifies and deems relevant for both large as well as small to medium sized organizations [15].

The shortage of material in the context of knowledge management specifically addressing the micro enterprise required a definition of this size of business to first be established. This was done by European legislation which considers organizations that have an annual turnover of below two million Euro and employ's less than ten people to be classified as a 'micro-enterprise' [9]. Seen within the KM context, this small size definition of a micro business brings inherent challenges to light such as; the selection of staff incentives for contribution toward knowledge collection [19], the hidden time factor and cost involved in maintaining a knowledge management system [11] and the learning disability found in this size of enterprise [6]. Although these challenges are shared in common with Small and Medium Enterprises, the issues of poor communication of knowledge, fear of knowledge loss and staff reluctant to sharing their knowledge are ever more pronounced in the micro environment [15].

The level of dependency that such organizations have on tacit knowledge and the recognition to its mobility is also worth noting [21]. An interesting study in [1] investigates the reason why Small and Medium Businesses (SMBs) are reluctant to transferring tacit knowledge into explicit knowledge and relevant tacit capture methods are evaluated against suitability qualities that impact the micro enterprise [6, 18].

III. The source of CA

The limited financial and human resources present within a micro enterprise leads it to perceive the benefits of KM and ultimately corporate memory as 'nice to have' but often hard to justify. This is primarily due to the excessive administrative overhead required to implement it. Following an analysis of the components leading to the implementation of KM practices within larger businesses [7], a number of factors hindering implementation in micro organizations are hereunder presented;

A. Incentive

The largest apparent hurdle in implementing a KM system is that of providing and maintaining sufficient incentive for staff to continually contribute knowledge to the system. In law firm environments, it was found that several attorneys see the product of their work as 'their own' rather than that of the firm [19]. This often results in an organizational culture in which employees refuse to share their knowledge in fear of losing the hold on their position. Furthermore, unless properly incentivized employees will seldom find the necessary time to transfer (document) their tacit knowledge into a KM system, a problem ever more pronounced within a micro enterprise due to the various roles each employee is assigned.

B. Cost

Another indirect hurdle which leads an organization to ponder on the applicability of KM is the cost of implementing and maintaining the KM system itself. Management may perceive the investment on the infrastructure and changes to procedures required to support a KM system as prohibitive and unjustifiable. Despite the tangible measures of predicted profitability and competitive advantage, it is nevertheless very difficult to justify the volume of time and money that is invested into managing disparate knowledge resources in a small budget firm [11].

C. Causes

Throughout its lifecycle, an enterprise experiences varied learning capacity difficulties. If an organization forgets its past endeavors and the reason why such tasks were even attempted, it would be equally unable to record and retrieve significant aspects of what it actually knew [6]. Despite the clear advantages of KM, the micro enterprise will typically

not employ a formal system but instead rely exclusively on the tacit knowledge of its staff for the purpose of CM. As a result of this over-reliance on tacit knowledge, CA in a micro enterprise can be summarized as being caused by the downsizing of staff levels, shift-work rotations, high staff turnover, outsourcing of processes and the fact that tacit knowledge is forgotten or not used because it was not associated to the location of its use. Since these identified causes represent the inherent nature of the human workforce in a corporate environment they are not directly preventable. However, by optimizing the conversion and storage of knowledge purposefully, a KM system can help minimize the impact that each of these causes can have on the micro enterprises' corporate memory.

IV. Optimizing K-Capture

Like any other form of business organisation, a micro enterprise harvests two fundamental types of knowledge - tacit and explicit. Tacit KM is the process of capturing, managing and sharing one's experience and expertise when and where it is required [6]. Tacit knowledge is itself split into two areas – Individual and organizational. Individual tacit knowledge, usually present within the minds of 'knowers' and often contributed voluntarily by individual members of staff. Organizational tacit knowledge is carried by the collective grouping of individual tacit knowledge. The other fundamental form of knowledge for the organization is of explicit nature, and this is commonly present in the procedures, processes and documentation stored within the enterprise.

Tacit knowledge is the more volatile of the two types since it is carried by staff members who have a dynamic relationship with the firm and can be considered as an unstable asset in the company's future. This issue, which is highlighted as a risk factor in SMB's who rely on this mobile knowledge [21] is ever more challenging to manage inside a micro enterprise.

A. Knowledge Transfer

The four modes of knowledge transfer represented by *Nonaka & Takeuchi* within their SECI model clearly define the states in which these two types of knowledge can exist [16]. They also indentify the continuous spiral process of organizational learning. KM systems work toward keeping this process of organizational learning in motion by means of implementing a KM cycle. Several established KM cycles have been developed such as those by *Wiig, Meyer & Zack, McElroy, and Bukovitz & Williams* and a general consensus is present throughout these models whereby knowledge capture is recognized as the first phase of each of these cycles. This initial phase is also specified to be the most intrusive and administratively time consuming phase of the entire cycle. Due to such an initial hurdle, SME's regularly opt to retaining most of their knowledge in tacit form primarily due to the shortage of time and resources available to converting it into explicit form [1].

B. Qualities that matter to the Micro Enterprise

The limited human and financial resources available to the micro enterprise mandates that any additional resources allocated towards the processing of knowledge is kept to an absolute minimum. Consequently, as highlighted within the limiting factors of Section III, a successful KM model for micro enterprises requires the process of capturing knowledge to be accurate in nature, performed in a transparent and time-efficient manner and require the least amount of incentive. These factors are further elucidated in this section to concretely analyze the manner in which a micro-enterprise can assure compliance to this required framework.

Transparency - The process of capturing explicit knowledge demands different methods to be explored than that of actually transferring tacit into captured explicit knowledge. The one aspect common to capturing both types of knowledge however is the level of transparency involved in the actual capture process. Due to limitations of human resources and the value attributed to time, the micro enterprise is highly sensitive to having processes and procedures loaded with additional tasks to maintain a system which does not provide much incentive to the contributor or any form of immediate return. *Dalkir* emphasizes that the most important challenge of KM success is user incentive [6]. In the absence of the ideal - a way to transfer tacit knowledge directly into explicit knowledge and the importance of approaching as transparent (time-efficient) a method as possible is a mandatory prerequisite to implementing a KM system in the micro enterprise.

Capture Points - Equally important to the transparency requirement, is the point at which the knowledge is actually captured. In contrast to asking the 'knower' to offload his tacit knowledge on a particular topic by interview or other established means, a transparent point to capture and convert this knowledge is when it is in a state of 'transit'.

Bringing *Nonaka's* SECI model [16] into perspective clearly reveals instances of these so-called 'transit' points.

During the internalization and combination phases tacit knowledge is in 'transit' and can be transparently captured. Equally so occurs during the socialization and externalization phases which are much easier to encounter within the familiar context operated by micro enterprises of few employees.

C. Tacit capture methods

Tacit knowledge is the more challenging of the two knowledge types to capture. *Dalkir* explores several methods of individual Knowledge Capture. The first group explored is that proposed by *Parsaye* [18]. These are; Interviewing experts, learning by being told and learning by observation. Each of these three methods involves disruption of the 'knowers' productivity during the knowledge transfer session and requires an additional person to conduct the session and document the 'externalized' knowledge. A process that is clearly unfeasible with the limited resources available to the micro enterprise. The second group of methods explores the Ad hoc sessions, Road maps, Learning

		Qualities that impact the micro enterprise						
		Conducive to productivity?	Self-motivating?	Tacit to Explicit transfer using existing staff?	Relatively accurate?	Perceved as Transparent?	Readily available Capture Points?	SIUTABILITY (YES COUNT)
K - Capture Methods	Interviewing Experts	NO	NO	NO	YES	NO	YES	2
	Learning by being Told	NO	NO	NO	YES	NO	YES	2
	Learning by Observing	NO	NO	NO	YES	NO	YES	2
	Ad hoc sessions	YES	YES	YES	NO	YES	YES	5
	Road maps	NO	YES	NO	YES	YES	YES	4
	Learning histories	NO	NO	NO	YES	NO	YES	2
	Action learning	NO	NO	NO	YES	NO	NO	1
	E-learning	YES	NO	YES	YES	NO	YES	4
	Learning from others (guests)	N0	NO	YES	NO	NO	YES	2

Fig. 1 The Knowledge Capture comparative matrix

histories, Action learning, E-Learning and Learning from others.

These methodologies are compared within a suitability matrix in Fig. 1 which analysis the potential presented by each Knowledge Capture method to adhere to the desirable qualities required by micro enterprises. Each of the qualities has been given equal weighting to maintain clarity and simplicity but should be evaluated on a per case basis upon application. Fig. 1 imminently portrays the fact that despite the accuracy and quality commonly associated with the Action Learning method, this technique is the least suitable for the micro enterprise. This resulted since the method is disruptive to the 'knowers' productivity, incurs additional costs due to the extra staff required to conduct the exercise, relies on some form of incentive being in place and is also not transparent to the usual day-to-day business procedures and processes. The methods of expert interview, learning by being told and learning by observation are nearly equally unsuitable to the micro enterprise since they require staff incentive, are disruptive to productivity and also require additional human resources to conduct the respective sessions [18]. Conversely, the Ad hoc Sessions represents the most favorable method for the micro enterprise. It impacts positively on all aspects and only falls short on the accuracy of the captured knowledge as a result of its 'real-time' recording of the sessions' events. Of particular interest is that this method can be easily adapted to make use of current communication technologies such as email, chat, video conferencing and instant messaging sessions [6]. These technologies also assist the implementation of suitable and non-invasive capture points within the organizations. Moreover, Ad hoc sessions lack a formal structure and thus can be adapted to whatever format is most suited to the knowledge being captured.

D. Adapting the methodology

The adaptability to various technologies and the informal structure inherent in the Ad hoc method provides for tremendous scope in capturing knowledge from several sources automatically, transparently and at minimal additional cost in time. This is useful since each technology demands its own evaluation and analysis of suitability in relation to the nature of the enterprise.

Capturing knowledge from any form of communication session can be considered as an ideal 'transit' capture point in relation to *Nonaka's* SECI model. Using the right technology to tap-in to these transit feeds can serve to efficiently capture vast amounts of knowledge on any topic that is being processed and exchanged by the 'knowers'. Several technologies to convert speech (tacit) to text (explicit) from telephone or other forms of voice conversations are available on the market. These technologies can also serve to index the capture and make it searchable to the organization. Furthermore, the capturing process can also be easily adopted within the organization for utilization in problems of various domains.

Two important considerations to ensure suitability and reliability of the knowledgebase involve the need to be selective about the sources and the reliable categorization of the captured knowledge to avoid corrupt or redundant entries being generated. The latter can be addressed by adding appropriate meta-data to the event [7], which in turn assists the utilization of auto-categorization algorithms. This meta-data can either be keyed-in by the 'knower' or can alternatively be extracted automatically from the content of the event. Categorizing the capture will provide scope for the knowledge and establish a fundamental level of accuracy for further KM cycle processes to utilize.

V. CONCLUSION

This paper has identified the lack of research that exists on the application of Knowledge Management in the micro enterprise. It has defined Corporate Amnesia and recognized its principle causes in the micro enterprise. Following the identification of knowledge capture as the initial and most

significant hurdle in adopting KM, the research conducted has established the need for an optimized method for capturing knowledge. During the discussion stage, particular focus was placed on the evaluation of established methods used for knowledge capture and thus leads to a framework that is optimized for use in a micro enterprise environment to be proposed.

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