

The Use of Knowledge Management as A Sustainable Competitive Advantage in African Manufacturing Settings: An Architectural and Economic Analysis for 21st century.

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Abstract - the effect of globalization and new advances has achieved a situation of radical and persistent change. The quick changes oblige workers to learn new aptitudes and information persistently. Information Management is an essential element in building a learning association focused on superior where new information should be made, kept up and shared between workers. Information Management concentrates on how the learning can be sorted out and used to give upper hand. Writing recommends that if Knowledge Management activities are effectively connected that it will come about into enhanced hierarchical execution and intensity. Learning is regularly used to settle on business choices or to perform fabricating forms which are better than that of contenders. Worth is included through the utilization of data and information amid the assembling, advertising, budgetary, business and different business forms used to give Steel items to the clients.

Keywords – sharing information, learning organisations, information systems, information mapping, and innovation.

INTRODUCTION

Knowledge management is the act of arranging, putting away, and sharing indispensable data, so that everybody can profit by its utilization. In this article, we'll take a gander at precisely what learning administration is, and how you can begin arranging information inside your own particular association, along these lines sparing cash and expanding efficiency Pemberton (1999). It is the system structure of connections, parts, procedures, advances and administration that an association sets up that permits learning to be dealt with as a typical resource, and which permits applicable ability, knowledge and experience from others to be gotten to and connected to business issues Snyman (2003). It is the method for getting the right information to the right individuals at the point and time of need, so they can settle on the right choices and take the right activities. Information Management projects are commonly attached to authoritative goals, for example, enhanced execution, upper hand advancement, lessons learnt exchange (for instance amongst ventures) and the general improvement of communitarian practices. Information Management is as often as possible connected to the possibility of the learning association albeit neither one of the practices envelops the other. Information Management might be recognized from Organizational Learning by a more noteworthy spotlight on particular information resources and the advancement and development of the channels through which learning streams" "Information administration will convey remarkable joint effort and association working. It will guarantee the locale expands the estimation of its data and information resources and it will help its subjects to utilize their innovativeness and abilities better, prompting enhanced adequacy and more prominent advancement" Du Toit (2001).

Approaches to turn tacit knowledge into competencies

Milton talks about People Process and innovation in KM

Nick Milton discusses People Process and technology in KM. A Knowledge Management structure is a finished arrangement of People, Process, Technology and administration, which guarantees that Knowledge administration is connected methodically and successfully to enhance business results.

- People; learning administration parts must be built up in the business, groups should be set up to share and reuse implied information, practices, for example, looking for and sharing learning should be incentivised, and to end up 'the way we work'
- KM Processes; there must be an attempted and-tried procedure for catching, refining, accepting, putting away, applying and reusing learning, furthermore to innovate.
- KM Technologies; the general population and the procedure should be upheld by empowering innovation, which permits information to be found and got to wherever it dwells (in databases, on the Intranet, in individuals' heads). IT assumes an essential part in KM, by giving the innovation to permit individuals to convey.
- KM Governance; without an administration framework that advances and perceives sharing and the re-utilization of information, any endeavours to acquaint KM are running with be a hard battle.

The information above summarises the approaches that can help knowledge management to be a tactful strategy to organisations.

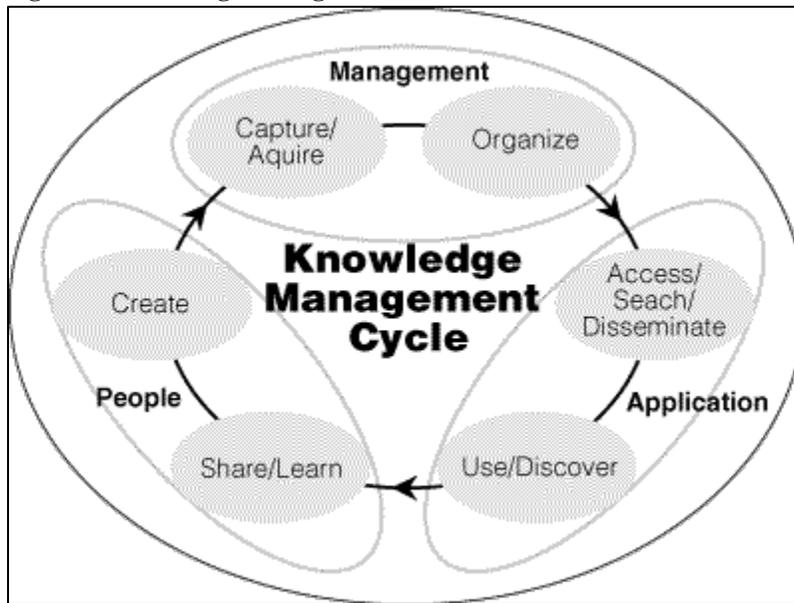
THE IMPORTANCE OF KNOWLEDGE AS A CRITICAL RESOURCE FOR GROWTH

Most manufacturing organizations are centred on delivering products or administration for clients. Be that as it may, a standout amongst the hugest keys to esteem creation originates from setting accentuation on delivering information. The creation of information should be a noteworthy part of the general generation technique Arora, (2002). One of the greatest difficulties behind learning administration is the dispersal of information. Individuals with the most noteworthy learning have the potential for elevated amounts of worth creation Stonehouse (1999). In any case, this learning can just make esteem in the event that it's put in the hands of the individuals who must execute on it. Information is generally hard to get to – it leaves when the learning proficient leaves. "The main crucial capital an association has is the information and capacity of its kin. The profitability of that capital relies on upon how adequately individuals impart their ability to the individuals who can utilize it." – Andrew Carnegie. Hence, learning administration is regularly about overseeing connections inside the association.

Confirm the business model of the company

Extensive manufacturing units would need suppliers to create to encourage profitable cooperation. Learning is key to acing profitability and looking after quality. ArcelorMittal plant has an assortment of projects intended to move and enhance learning administration. New workers. Amid the study, the scientist (2014) recognized that the plant additionally sorts out knowledge stand down gatherings over the manufacturing plant each month for 15 minutes, where the motivation is to talk about conceivably risky conditions and occasions. Representatives themselves deal with the programmes and orderliness of generation lines. The shop-floor workers burn through 15 minutes being honed and tutored in every movement furthermore take an interest in preparing and improvement, as this motivates proprietorship and trust. Likewise runs a system wherein representatives can give input on the off chance that they detect a development crevice or a potential learning association Conradie (2010).

Figure 1: Knowledge management framework



Source: Adapted from Conradie (2010:9)

Figure 1 draws attention to Knowledge management framework how it creates the environment that supports the opportunities or problems that trigger just in time knowledge processes that enables an organisation that is learned and informed. Moreover, it connects people to people and make them more productive in a more increased measure of efficiency and effectiveness in an organisation. Its ultimate goal is to bring about experiences and information accessible to the workforce which drives the competitiveness and long-time value of the business.

DEFINING KNOWLEDGE MANAGEMENT AND RELATION TO SUSTAINABLE COMPETITIVE ADVANTAGE

Data (information) that is regulated is characterized as a thought in which an organisation intentionally and thoroughly gathers, makes, shares, and examinations its learning with respect to resources, reports, and relationship building capacities Buchanan (1994). In mid-1998, it was assumed that few ventures truly had a broad learning organization practice (by any name) in operation. Advances in development and the way we get to and share information have changed that; various associations now have some kind of data organization structure set up. Learning organization incorporates data digging and some strategy for operation to push information to customers Hannabuss (1994). An information administration game plan incorporates an investigation of corporate goals and an adjacent examination of the instruments, both customary and particular that are required for tending to the necessities of the association. The trial of selecting a learning organization system is to purchase or build programming that fits the setting of the general game plan and urges delegates to use the structure and offer information Shen (1987).

As further explained by Nonaka (1994), Knowledge administration is the efficient administration of an organisation's information resources with the end goal of making quality and meeting strategic and key necessities; it comprises of the activities, procedures, methodologies, and frameworks that support and upgrade the capacity, evaluation, sharing, refinement, and production of learning Huber (1995). Information administration (KM) in this manner suggests a solid attach to hierarchical objectives Rockart (1987), and technique, and it includes the administration of learning that is helpful for some reason and which makes esteem for the association. "Learning Management ('KM') includes a scope of practices utilized by associations to recognize, make, speak to, and circulate information. It has been a built up control following 1995 with an assortment of college courses and both expert and scholastic diaries devoted to it. Numerous substantial organizations have assets committed to Knowledge Management, regularly as a piece of 'Data Technology' or 'Human Resource Management' offices. Learning Management is a multi-billion dollar overall business sector McCarthy (1996).

Sample group and size

Domain of the field	Positional Level	Sample (N)	Methods
Planning and Logistics	Executive team	4	Interviews
	supervisor	12	Formal interviews
	Engineers and technologists	4	Field interviews
	Professionals in this field	7	Field interviews
Engineering and Infrastructure	Management team	3	
	Manager	7	Direct observation
	Engineers and technologists	45	Field interviews
	Specialists	33	questionnaires
Operations (Metallurgical)	Management team	5	
	Manager	18	
	Engineers and technologists	16	Key informants
	Specialists	26	Focus group discussions
Operations (Rolling)	Management team	3	Informal interviews
	Manager	6	
	Engineers and technologists	8	Unstructured interviews,
	Specialists	16	observation
Quality or Product development	Management team	2	
	Manager	4	
	Engineers and technologists	13	Participant observation
	Consultants	14	Unstructured interviews
Other Supporting areas: (Sherq, Finance, Human Resources, Commercial and Information Management)	Management team	6	questionnaires
	Manager	12	Focus group discussion
	Engineers and technologists	16	observation
	Experts	43	
Summary	Executive team	18	
	Supervisor	59	
	Engineers and technologists	102	
	Consultants	139	
	Total	318	

The primary target gathering of this paper was the comparison of South African manufacturing plants owned by the same owner comprising of all the workforce in 3 areas, their view on knowledge management practices. The degree incorporated directors, engineers, technologists, professionals together with authorities over very capacities. Populace utilized was the part administrators and pros. One of the example secured an expansive range of members with blended race, sexual orientation and work involvement with various levels inside the group. The quantity of representatives found in these gatherings is outlined per utilitarian range and authoritative level in table 3.1. It can be found in table 3.1 that the aggregate sum of workers in the populace is 318.

Detail of population size

This research study has chosen a suitable testing outline, the example (a chose little accumulation of cases or units) that nearly duplicates components of enthusiasm for a bigger gathering of cases, called populace contains workers in the assembling segment chose from an organization ArcelorMittal in South Africa (Lewis & Sheppard 2006, McDonald et al. 2003, McFoy 2004, Neupane & Thapa 2001, Neupane et al. 2002, Orozco & Lentz 2005). This organization was picked on the grounds that was open to the specialist all the more so the scientist being an operations administration understudy and in light of the fact that their staff quality and methods of operation will help the analyst draw a sensible example for the study on the grounds that is one of the best steel producing organizations in the globe (Godambe 1982). This organization has staff quality of more than 1600 workers and the generation unit which is important to the specialist.

The respondents were haphazardly chosen in the organization which the researcher Motebele (2015) went to visit in a manufacturing plant in South Africa for observation and conduct interviews. Subjects picked were from the plant and support administrator rank downwards and additionally broad specialists. Things changed when the scientist got to the organization as no remote individuals are permitted access to the plant because of wellbeing and security controls. Taking all things together, 318 respondents of this classification of workers were chosen from poll directed and meets led. These classifications of representatives were altogether chosen in light of the fact that the vast majority of them are architects that work in the plant and the specialist feels that they see more work stretch and weight than whatever other unit in the operation. A survey was drafted to draw all the feasible data from workers in order to see whether learning administration practices were executed in South African steel producing plant and the representatives knew about these practices (McDonald et al. 2003).

RESULTS AND FINDINGS

- There is not a reasonable comprehension by 37% of respondents feel that the importance of knowledge is closely tied to the rhetoric regarding the contemporary rising and emergence of knowledge.
- The final range of factors that were examined shows that 85% of respondents are of an opinion that whether markets are vastly competitive or not on the basis of cost quality and innovation if knowledge is not conferred it will immensely affect the infinite number of strategies that an organization is trying to implement.
- Beyond no reasonable doubt 33% of respondents argue that with regards to knowledge management a multiplicity of definitions could be communicated in different areas of African manufacturing firms.
- More than 85% feel that a learning orientation is linked to a competitive high turnover and flexibility that seems to be a significant is not rehearsed to exchange information between divisions.
- In the debate over defining knowledge >66% of respondents consider knowledge perspective as identifiable while the mainstream perspective suggests that knowledge is a distinctive and elite element in the workforce.
- < 50% of respondents formalised technical knowledge as of great importance in relation to workplace that uses extensive knowledge systems and is shown that the possession and use of tactic knowledge is critical
- Around 65% of the South African respondents feel that correspondence is successful versus the 82% of Brazil and 33% feel that senior administration imparts viably contrasted with the 77% at Brazil. Powerful correspondence is an essential for viable KM and should be made strides.
- Dialect contrasts negatively affect correspondence. A KMS that is well-organized can help the business increase staff performance, client satisfaction, and quality of service. Moreover, in Newcastle, knowledge is the core of operation and innovation, therefore it should be considered as one of the most valuable assets a company might have.
- The advantages of a knowledge management system can be significant and rewarding when all the keys are in place.

CONCLUSIONS AND FURTHER RESEARCH

The study watched the utilization of learning between African nations and different nations over board Africa from January 2010 to December 2016. Over this period, the South African economy encountered a noteworthy in this time span (2010-2016) because of the Global knowledge management Catastrophe that torment the world and is viewed as that most noticeably financial calamity related disaster amid humanity. This lead to the downturn in national economies with South Africa being the same with learning and the data being the most antagonistically influenced. This stun could affect the outcomes get in this concentrate along these lines future examination ought to check this issue and a feasible arrangement would be the expansion of a fake variable which would part the

example time frame into more than one period; the pre-emergency and the post emergency period. An option would be the utilization of learning project strategies such which considers auxiliary breaks.

RECOMMENDATIONS

Screen execution and examine results for ceaseless change.

Leaders need to surrender control all together to learn capacities to be upgraded. This will prompt more prominent business results by dispensing with inefficient practices, and achieve the advancement of new business rehearses that lead to better results. What's more, mental models should be inspected. The limits that square authoritative learning activities have an awesome arrangement to do with the mental models installed in the way of life of an association. For instance: hoarders, progressions, and stars are the request of the day! For associations to accomplish supportability for their KM endeavours, they should be set up to grow new mental models for considering their working environments and better approaches to reach crosswise over inside and outside limits.

"One Successful learning administration relies on upon a submitted gathering of information labourers, which thus needs the help focus to track execution, measure results, and report discoveries. Preferably, quantifiable results are telecast week by week to the administrators, groups, and people. Members at each level must have the capacity to see proof of the aggregate advantages so they effectively partake and ceaselessly enhance the information accessible to both specialists and clients of online self-administration alternatives. Past this, visible advancement guarantees that the learning activity will probably get the essential assets for long haul achievement.

In effective information administration executions, singular cooperation and hierarchical responsibility are strengthened through motivator programs adjusted to execution objectives and turning points. The execution administration technique ought to incorporate a framework for spurring introductory cooperation, remunerating singular commitment, perceiving remarkable achievements, drilling hesitant specialists, and tending to regions of shortcoming. Motivating forces, prizes, and acknowledgment can take numerous structures — official affirmation at organization gatherings, production in the association's pamphlet, film tickets, meals out, open outlines following investment, measurements demonstrating the lessening in call times or the ascent of self-administration action, and then some. Whatever the association chooses, impetuses and prizes ought to be of genuine worth to the beneficiaries and noticeable to senior administration.

Table 4.1: KNOWLEDGE MANAGEMENT PROGRAMME FRAMEWORK

Issue regions recognized amid observational exploration	Design Principle	Studies of specific skills, knowledge, or practices
KM Alignment with the business system, qualities and initiative	1, 2, 3	The decision of the KM practices ought to rely on upon the company's key introduction to KM. A learning methodology depicts the general approach an association expects to take to adjust its learning assets and abilities to the scholarly prerequisites of its methodology hence lessening the information hole that exists between what an organization must know not its system and what it knows
KM used as a sustainable advantage	4	Preparing on ideas of KM, meaning of unsaid and unequivocal learning and distinction between data innovation and information, Importance of scholarly capital or ability in a changing business environment. Significance of abilities grid, ID of basic learning required to execute business technique or to support intensity
Sharing of tacit knowledge culture and shared values	5	Behaviour, Culture and Values incorporates working styles that are critical to effective collaboration

Efficiency of collaboration and communication	6	For noteworthy change to prompt maintainability, various levelled control must be set aside. The rise and advancement of casual systems must be upheld with the goal that individuals can share their implicit learning and help each other. Groups of practice can be equipped so that individuals constantly figure out how to help each other.
Leverage knowledge technologies	7	The dispersion of imaginative practices needs casual systems through which new thoughts can spread in and crosswise over associations. Such casual systems are quite often better than progressive channels for spreading new developments on the grounds that these casual systems as of now exist; trying different things with new thoughts requires cause and time to think in a protected setting; and on the grounds that there is a solid component of believability with individuals whom we know. Without dynamic inside groups of practice, an association can't expect significant and supported change.
Viability of individual systems and learning trade discussions and guiding	8	In effective learning administration executions, singular interest and authoritative duty are fortified through motivating force programs adjusted to execution objectives and points of reference. The execution administration methodology ought to incorporate a framework for propelling starting support, remunerating singular commitment, perceiving outstanding achievements, guiding hesitant operators, and tending to ranges of shortcoming.
HR and new approaches and incentives systems in an organisation	9,10	Motivators, prizes, and acknowledgment can take numerous structures — official affirmation at organization gatherings, distribution in the association's pamphlet, motion picture tickets, meals out, open graphs following support, measurements demonstrating the diminishment in call times or the ascent of self-administration movement, and that's just the beginning. Whatever the organisation chooses, motivators and prizes ought to be of genuine worth to the beneficiaries and obvious to senior administration.

Manageability of a Knowledge Management Endeavour

For an information administration push to work, it must be comprehended that no advancement is reasonable unless trailblazers figure out how to comprehend why the framework is pushing back, and how their own dispositions and recognitions add to the "pushback." Until they see this, there will be no improvement of orderly methodologies for supporting significant change. (Once there is scholarly understanding there can be enthusiastic engagement, prompting maintained activity, all in a positive input circle.)

The improvement of individual results is frequently the primary wellspring of strengthening vitality for maintaining profound change. Furthermore, it is inalienably fulfilling to work in a system of conferred individuals. Given the decision, not very many individuals would not have any desire to wind up part of a system where there is fervour, tirelessness, development, experimentation, and responsibility. As Dr. W. Edwards Deming used to say, "Individuals look for delight in work." In this day of main concern centre, when representatives frequently expect that individual needs are subservient to the association's needs, it is genuinely freeing to find that the two can be adjusted instead of in restriction. For the individuals who have gone from a common organisation to one, which actually underpins learning and information for everybody, feel changed. They figure out how to see exactly the amount they are worth, and what they can provide for the working environment. They turn out to be mentally invigorated, stimulated, and inwardly locked in.

Biographical Statement: Makhala Mpho Motebele is a Masters applicant in the bureau of value and operations Management. Her counselor is Charles Mbohwa. Mpho's examination work traverses an assortment of territories including advancement of assembling techniques reported results, financial displaying and review information investigation. For her lord's theory, she contemplated the effect of assembling systems on abilities, execution and intensity of an assembling firm by assembling experts and assembling results of nature of item life and item advancement. She is likewise inspired by considering the effect of different components on assembling results in troubled assembling firms with a perspective of rebuilding. Her past work has additionally taken a gander at the use of correlative and option fabricating in South Africa and UK. Amid her tutoring as a Masteral understudy in the office and in addition her involvement with different industry temporary jobs, she has taken an interest in undertakings including authoritative advancement and exhibiting monetary effect of assembling procedure administration and has introduced at nearby and universal meeting of designing and operations administration. For her Masters proposal. She is leading a reviewing information examination that utilizations quantitative and subjective strategies that explores operations and assembling firms' results in Africa influenced by the cover of financial lapping, social and overhauled data. Her enthusiasm for assembling administrations examination and operations basic leadership created amid her encounters looking into cost-viability investigation at ArcelorMittal in South Africa, and executing a choice guide for return designs for troubled assembling firms with the University of Johannesburg.

REFERENCES

1. Arora, R. (2002). Implementing knowledge management — A balanced scorecard approach. *Journal of Knowledge Management*, 6(2), 240–249.
2. Bhat, G.D. (2002). Management strategies for individual knowledge and organizational knowledge. *Journal of Knowledge Management*, 6(1), 31–39.
3. DAVENPORT, T. & PRUSAK, L. 2000. *Working knowledge: how organisations manage what they know*. Boston: Harvard Business School Press. 199 p.
4. Jashapara, Ashok, (2005), 'The emerging discourse of Knowledge Management: A new dawn for information science research?', *Journal of Information Science*, Vol. 31, No. 2, pp. 136-148.
5. KOK, J.A. (2004). Framework for managing knowledge in an enterprise to gain competitive advantage. *South African Journal of Information Management*, 6(4):1-9.
6. LUBIT, R. (2001). Tacit knowledge and knowledge management: the keys to sustainable competitive advantage. *Organizational Dynamics*, 29(4):164-178.
7. MURRAY, P. (2002). Knowledge management as a sustained competitive advantage. *IVBY Business Journal*, 66(4):71-78, March.
8. NDLELA, L.T. & DU TOIT, A.S.A. (2001). Establishing a knowledge management programme for competitive advantage in an enterprise. *International Journal of Information Management*, 21(1):151-165, Summer.
9. Spender, J.C. (1996). Making knowledge the basis of a dynamic theory of the company. *Strategic Management Journal*, 17, 45– 62.
10. Stonehouse, G.H., & Pemberton, J.D. (1999). Learning and knowledge management in the intelligent organization. *Participation & Empowerment: An International Journal*, 7(5), 131–144.
11. THOMPSON, A., STRICKLAND, A. & GAMBLE, J. (2010). *Crafting and executing strategy*. New York: McGraw-Hill. 413 p.
12. VAN DEN BERG, H & SNYMAN, M. (2003). Managing tacit knowledge in the corporate environment: communities of practice. *South African Journal of Information Management*, 5(4):2-10.
13. Wiig, K. M. (2000). Knowledge management: An emerging discipline rooted in a long history. In *Knowledge management*, ed. D. Chauveland C. Despres. Paris: Theseus.