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Relationship between Task Structure and Knowledge Transfer in Banking Technology Project among Kenyan Commercial Banks

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Abstract:

Inadequate knowledge transfer negatively affects technology adoption as business strategy. Knowledge management capabilities improve sustainable competitive advantage of organizations. A review of the available literature suggests that the relationship between task characteristics such as task structure and knowledge transfer capabilities is under researched. The objective of this study was to investigate the relationship between task structure and knowledge transfer in banking technology projects among Kenyan commercial banks. A quantitative research methodology was used in the study to achieve the study objectives. Stratified sampling technique was used to get 126 respondents from the registered 43 commercial banks' management employees. The data analysis techniques such as descriptive statistics, inferential analysis, and linear regression were used to analyse the data. The study results show that there is a strong, positive, direct and significant relationship between task structure and knowledge transfer in banking technology projects among Kenyan Commercial Banks. Therefore, this study concludes that task structure has a strong, positive, direct and significant relationship with knowledge transfer in banking technology projects among Kenyan Commercial Banks. The study recommends that during banking technology projects, tasks should be clearly structured, and defined through documentation task knowledge in an enabling socio-technical environment. A well-structured task motivates employees to engage in knowledge transfer activities such as knowledge seeking, knowledge acquisition, knowledge internalization, and knowledge application. Managers should therefore ensure that an enabling socio-technical environment and a conducive knowledge work support system exist in a banking technology project organisation. The study suggests further research targeting other well-known task characteristics variables in varying environment or context to assess their relationship with knowledge transfer towards their inclusion in the knowledge management theories and practice.

Keywords: Task structure, task knowledge, banking technology projects, knowledge transfer

1. Introduction

A review of the available literature on knowledge transfer shows that the effects of task structure on knowledge transfer capability is under-researched. The existing literature primarily reflects knowledge transfer focus as an enabler to business gaining competitive advantage through the enhancement of organisational learning, organisational core competence, intellectual capital and innovations. This has been influenced by the emergence of knowledge economy in which knowledge is identified as the most critical resource for any organisation overtaking the traditional resources of labour, materials, land, and capital. Research in the field of knowledge management has concentrated its attention to exploring the effect of knowledge management on organisation performance; organisational learning, innovation and organisational core competence in acquiring and sustaining competitive advantage (Stonehouse & Pemberton, 2005). The concepts of knowledge management govern the generation of new ideas and corporate learning (Nonaka, 2007), knowledge creation (Nonaka, 2007) and innovation thinking (Schilling, 2005). Given that knowledge transfer is a critical component of knowledge management strategy and knowledge management practice, research attention is required. According Alavi and Leidner (2001) effective management of knowledge is one of the key strategic differentiators for successful organisations (Alavi & Leidner, 2001).

Despite the competitive necessity of becoming a knowledge-based organisation, managers have found it difficult to transform their firms through programs of knowledge management practices such as knowledge transfer (Senaji & Nyaboga, 2011). Senaji and Nyaboga (2011) suggest that it is necessary that organisations increase their capacity to successfully implement knowledge management processes such as knowledge transfer and leverage on knowledge assets for sustainable competitive advantage.

Banking technology is also referred to financial technology (FinTech) in some literature. Banking technology is anchored on information technology capabilities. In the recent past Kenyan commercial banks have adopted various banking technologies aimed at enhancing their competitive advantage in a competitive industry. The adoption of banking technology is done through projects which a timeline with specific objectives. Like any other strategic projects within organisations, banking technology projects are implemented by people, using defined processes, methodologies and tools. The ability to transfer knowledge, while working effectively on a series of project tasks is critical to a better outcome of any strategic project (Boer, 2005). The employees involved in such projects may have different knowledge capability i.e. knowledge, experience, skills and talents, behaviour while the processes, methodologies and tools in use may have different technical strength and limitations or constraints. During task performance the employees are exposed to tasks with different characteristics that may impact on their behaviour and motivations.

2. Literature Review

2.1. Task Structure

Task structure is one of the intrinsic task characteristic which is known to influence employee motivation and performance. Tasks would generally be classified as either highly structured or lowly structured. Task characteristics influence information seeking behaviour in team environment such as a technology project (Williams, 1999). According to Tejinder *et al* (2013) and Xia & Lee (2005) the task structure is an important factor in the efficacy of knowledge transfer within a team. Xia & Lee (2005) distinguish two types of task structure: well-defined or structured and poorly-defined or unstructured. Tasks are structured or well-defined if the starting point of the task, the end point, and the means of accomplishing the task are clearly specified (Tejinder *et al*, 2013) and understood by task doers. Well-structured tasks can be accomplished by following standard operating procedures, manufacturers work instructions or internal policies. In contrast, tasks are classified as unstructured if the starting point of the task, the end point, or the means of accomplishing the task is ambiguous (Tejinder *et al*, 2013). In unstructured tasks, there is no standard operating procedure, and no detailed description or objective indicator of the end point or end product of the task. In structured tasks, there is less need for employees to communicate and to seek clarification the various aspects of the task.

In less structured tasks, however, there is a high probability that employees' understanding and views of the task do not converge and therefore information seeking is important. Therefore, there is a need for more face to face clarification, expression of opinions, and supportive and critical reflection which results in knowledge exchange. Indeed, Tejinder *et al* (2013) demonstrated that social relationship processes are related to better performance in unstructured tasks, but not in structured tasks. Task structure is an important moderator of the relationship among employees undertaking a series of tasks in a team environment. Task structure influences employee behaviour such as knowledge exchange during task performance.

Indicators of task structure available in the literature include clear and well documented defined procedures, methods and processes, degree of task sequence, clarity on which methods, and tools to be used, clarity on expected outcome for each alternative task sequence, minimal task sequence contradictions which may lead to confusion, tasks are predictable and follows a fairly necessary path (Campbell, 1988; Woods, 1986; Williams, 1999) These indicators are supported by other studies such as Hærem & Rau (2007), Zeffane and Gul (1993), and Wang (1997).

2.2. Knowledge Transfer

There are two basic questions that bother organisations with respect to knowledge transfer, how can the critical knowledge resource that exists in the organisation namely tacit and explicit be disseminated within the organisation to improve organisation's competitive advantage, strategic positioning and long term superior performance? And how can new knowledge acquired during new product development or innovative services redesigning to increase the value and demand of these products or services and lead to sustainable competitive advantage?

An investigation of knowledge transfer in banking technology projects among commercial banks aims at answering the second question. This is because, one of the strategic objectives of banking technology in commercial banks is to create innovative banking products or service that increase customer value and experience thereby enhancing competitive advantage.

Banking technology projects aim at delivering of new banking products and services through innovations. The success of banking product and services innovation initiatives is dependent on knowledge transfer capability. Effective knowledge transfer capability positively influences innovations within organisations, increases intellectual capital and, enhances organisational learning and core competencies (Schilling, 2005).

By the way (2015) identifies key knowledge areas that are critical to knowledge transfer capability. These includes knowledge on strategy content on banking technology, knowledge on business model for commercial banks, knowledge of banking processes and operations, knowledge on commercial bank's strategic need, and the overall commercial banks corporate strategy. This should be supported by knowledge on capability of the banking technology that is fit for purpose.

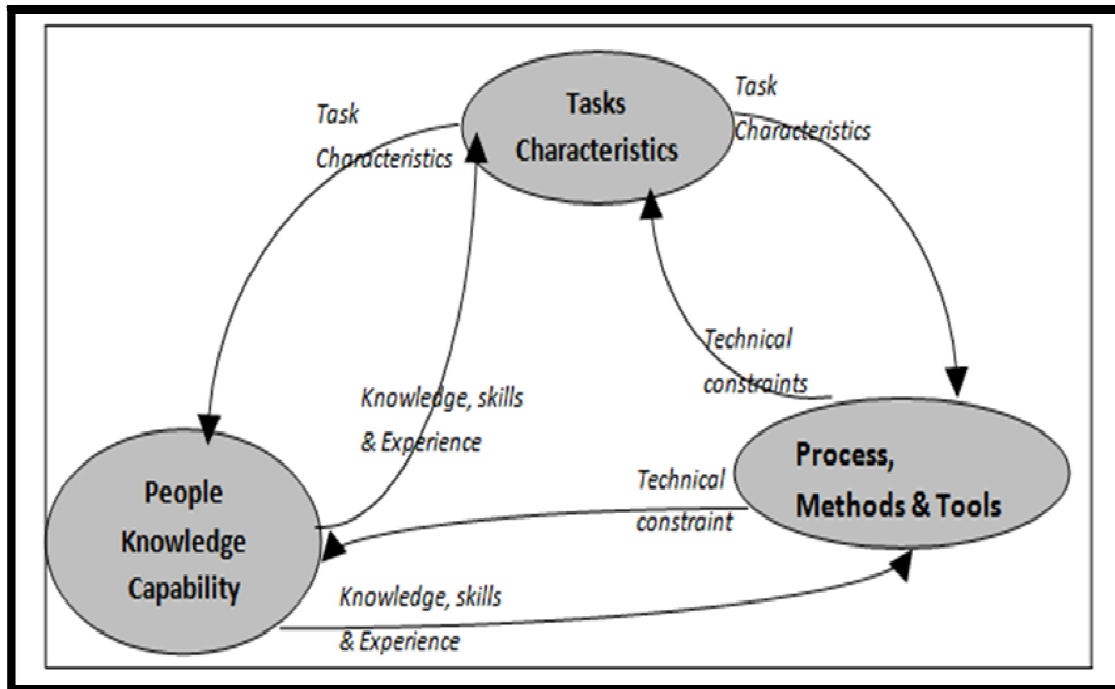


Figure 1: Determinants of Knowledge Transfer in a Banking Technology Project (Adapted from Boer, N., 2005)

Effective knowledge transfer in a technology projects occur when users of the banking technology find it easy to use the technology as suggested by (DeLone & McLean, 2016) and Davies (1989). The ease of banking technology use is a critical measure and indicator of knowledge transfer in technology projects.

2.3. Banking Technology

Banking technology is also referred to financial technology (FinTech) in some literature. Banking technology is defined as technology innovation in the banking sector that supports commercial banks' corporate strategy and assists in strategic choices and decisions. Improvement to of banking products and banking service through technology innovations such as those available in ATMs, SMS banking, mobile banking, Internet banking, debit cards, credit cards, agency banking, centralized payment systems, e-commerce and smartcard applications are implemented through technology projects. These technology projects comprise of a series of tasks, done by people who may have varying degree of knowledge resources or knowledge capability in a team environment. Knowledge transfer is the cornerstone of any successful technology innovations and Kenyan commercial banks are putting in place knowledge transfer processes that can sustain innovations. How task structure influence knowledge transfer in the context of banking technology project motivated this study.

2.4. Theoretical Review

There are two widely cited theories on knowledge transfer in the context of task knowledge namely the SECI model by Nonaka and Takeuchi (1995) and Task-Based Knowledge Management Framework by Burstein & Linger (2011).

Using the Japanese cultural context, Nonaka and Takeuchi (1995) developed the SECI Model, a cyclical knowledge conversion and knowledge transfer model, which contains four phases of knowledge transfer and knowledge conversion within an organization: Socialization, Externalization, Combination and Internalization. In socialization phase of the SECI model, the approach targets conversion of tacit to tacit knowledge transfer through social relationships. During externalization phase, the approach is concerned with the conversion of tacit knowledge to explicit knowledge through knowledge codification and documentation. The combination phase involves, converting explicit knowledge to explicit knowledge by classification, indexing etc which are technically done through knowledge management systems. This is the simplest form because it involves use of already codified knowledge sources (e.g. documents, methods, formulas, guidelines, work instructions etc) to create new knowledge. The internalization process recycles explicit knowledge back into tacit knowledge, suggesting that individuals internalize explicit knowledge into their mental frame. This phase is highly dependent on the cognitive capacity of the knowledge seeker

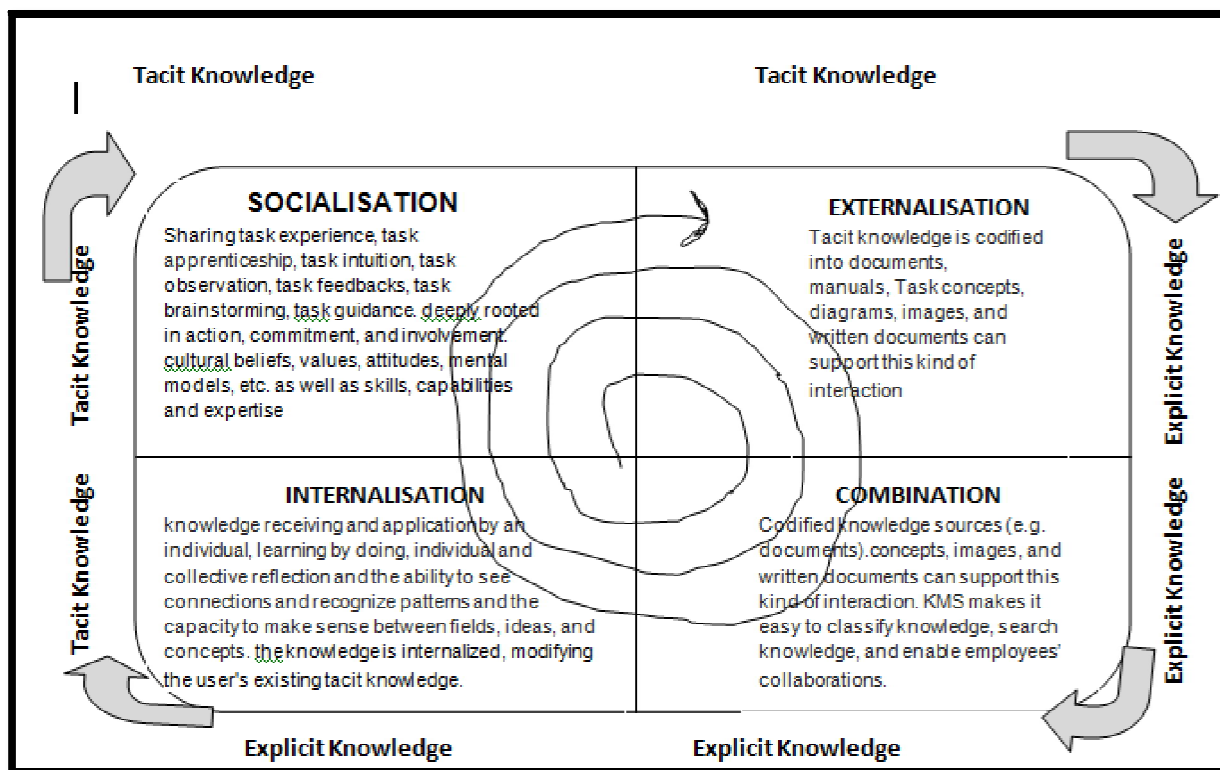


Figure 2: SECI Model of Knowledge Creation and Transfer (Nonaka & Takeuchi, 1995)

In SECI model, knowledge is continuously created, converted, transferred as employees practice and learn through task thinking (task conceptualisation) and doing (pragmatic) the tasks; learning by doing (Nonaka & Takeuchi, 1995). The process is a continuous, dynamic, swirl of knowledge. Nonaka and Takeuchi (1995) argue that in organisational knowledge creation and knowledge transfer, personal subjective tacit knowledge has to be externalised into objective explicit knowledge in order to be exchanged among individuals, combined and synthesised within and beyond organisations.

Task-Based Knowledge Management Framework is an emerging model of task-based knowledge management studies. Using the task constructs, Burstein & Linger (2011) did extensive study of knowledge management propositions specific to managing task knowledge at both individual, and team or communities of practice level. Burstein & Linger (2011) conceptualized their study findings by developing a Task-Based Knowledge Management (TbKM) framework which provided some theoretical insights and practical propositions on knowledge management specific to tasks performance.

The Task-Based Knowledge Management (TbKM) approach addresses the challenges and practicality of managing knowledge specific to a particular task which is driven by a specific task objective. The framework focuses on both pragmatic (task doing) knowledge outputs and conceptual (task thinking) knowledge outputs, with the two nested interrelated layers explicitly documenting task knowledge related to thinking, doing, and communication. Burstein & Linger (2011) posit that Task-Based Knowledge Management approach to knowledge management focuses on task knowledge practice and not organisation's knowledge practice. Unit of analysis in this framework is task knowledge at individual level and not organisation knowledge at organisational level.

3. Research Methodology

Given the objectives of this study, quantitative research methodology using an explanatory survey was found to be the most appropriate. Cooper & Schindler (2003) posit that the quantitative explanatory research design seeks to establish a casual relationship between variables using quantitative data. According to Babbie (2009), quantitative research method provides superior research results because the causal relationships between variables are easy to interpret.

In this study, the investigation is on the causal relationship between task structure and knowledge transfer in banking technology projects among Kenyan commercial banks. Cooper & Schindler (2003) also urge that explanatory study goes beyond description of observed data and attempts to explain the reasons for the phenomenon that the descriptive study only observed. Whereas a descriptive study would look at what is going on, an explanatory study seeks to explain why it is going on (Sekaran, 2013). The available literature on knowledge transfer research showed that quantitative research methodology using an explanatory survey is the most preferred research method. Structured questionnaires using a 5-point Likert scale as a tool of data collection was deemed to be the most appropriate and therefore was used. Response choices ranged from 1 = strongly disagree to 5 = strongly agree.

The use of structured questionnaires using a 5-point Likert scale as a tool of data collection was guided by the fact it is the most appropriate measurement scale for quantitative research in social sciences (Babbie, 2009). Also, most of the studies on knowledge transfer available in the literature have used the 5-point Likert scale. The structured questionnaire was used to measure the responses of the respondents concerning the influence of task structure on knowledge transfer in banking technology project among commercial banks in Kenya.

The questions (items) in the questionnaire measured the responses on various indicators of the variables in the study. These are indicators of the identified variables which have been used previously by other studies of task knowledge management and task structure in the available knowledge management literature.

The knowledge transfer variable was measured using ease of banking technology use, adapted from DeLone & McLean (2016) and Davis (1989)'s perceived ease of use variable. DeLone & McLean (2016) and Davis (1989) report that their scales have a higher internal consistency and highly correlated with technology usability.

The independent variable, task structure, was measured by a scale adapted from various studies namely Chandrasekaran (1986), Campbell (1988), Woods (1986), Williams (1999), and Task-Based Knowledge Management Framework (TbKM) by Burstein & Linger, (2011). The TbKM framework has been extensively used in measuring task variables in task-based knowledge management studies. The TbKM framework uses task construct indicators which set the foundation for the development of any knowledge management practice related to a task knowledge or knowledge work. The TbKM framework focuses on a task's ability to stimulate employee motivation to certain behaviours like engaging in knowledge or information seeking, knowledge sharing, and knowledge application.

4. Results

4.1. Response Rate

Questionnaires	Frequency	Percentage
Questionnaire administered	240	100
Questionnaires returned	126	52.5

Table 1: Response Rate

Out of the 240 questionnaires administered, 126 were completed and returned, which represents 52.5% response rate. As Mugenda and Mugenda (2003) observed, a 50% response rate is adequate, 60% is good, while 70% is rated very good. This agrees with Bailey (2000) who asserts that a response rate of 50% is adequate, while a response rate greater than 70% is very good. Based on Mugenda and Mugenda (2003) and Bailey (2000) observations, the response rate of 52.5% for this study was considered adequate and satisfactory to make conclusions for the study.

4.2. Correlation Results between Task Structure and Knowledge Transfer

The study sought to determine whether significant relationships exist between task structure and knowledge transfer sub-variable if ease of banking technology use in banking technology projects among Kenyan commercial banks. Pearson correlation analysis was used to explore the relationships that exist between the study variables. The correlation matrix table 3 was used to demonstrate the linear relationships and lack of auto-correlation among the predictor variables.

Pearson Correlation		CWD	DTS	CMT	CEO	MTS	TPP	EBTU
CWD	Pearson Sign (2 tailed)	1 0.000						
DTS	Pearson Sign (2 tailed)	0.040* 0.001	1 0.000					
CMT	Pearson Sign (2 tailed)	-0.033* 0.000	-0.044* 0.000	1				
CEO	Pearson Sign (2 tailed)	0.134* 0.000	0.454* 0.000	0.150* 0.000	1			
MTS	Pearson Sign (2 tailed)	0.002* 0.000	0.010* 0.000	0.142* 0.000	0.114* 0.000	1		
TPP	Pearson Sign (2 tailed)	0.118* 0.005	0.110* 0.000	-0.044* 0.000	0.146* 0.000	0.056* 0.000	1	
EBTU	Pearson Sign (2 tailed)	0.425* 0.000	0.415* 0.000	0.255* 0.000	0.588* 0.000	0.312* 0.000	0.295* 0.000	1 0.000

Table 2: Correlation Matrix

* Correlation Is Significant at the 0.01 Level (2-Tailed)

4.2.1. Sub-Variables (Items/Indicators) of Task Structure

- CWD: Clear and Well Documented and defined procedures, methods and processes
- DTS: Degree of Task Sequence
- CMT: Clarity on which Methods, and Tools to be used
- CEO: Clarity on Expected Outcome for each alternative task sequence
- MTS: Minimal Task Sequence contradictions which may lead to confusion
- TPP: Tasks are Predictable and follows a fairly necessary Path

4.2.2. Sub-Variable of Knowledge Transfer

- EBTU: Ease of Banking Technology Use

Table 2 presents the correlation coefficients for the study variables. It can be seen from the correlation matrix; all the task structure sub-variables are strongly correlated with knowledge transfer variable of Ease of Banking Technology Use. Clear and well documented defined procedures, and methods ($r=0.425$, $P<0.05$), degree of task sequence ($r=0.415$, $P<0.05$), clarity on which methods, and tools to be used ($r=0.255$, $P<0.05$), clarity on expected outcome for each alternative task sequence ($r=0.588$, $P<0.05$), minimal task sequence contradictions which may lead to confusion ($r=0.312$, $P<0.05$), tasks are predictable and follows a fairly necessary path ($r=0.295$, $P<0.05$) are highly correlated with Ease of Banking Technology Use which was used as a sub-variable of knowledge transfer variable.

Although, there were some significant inter-correlations between predictor sub-variables, all the inter-correlation coefficients are below the level considered undesirable, which is generally 0.80 or higher. Therefore, the inter-correlations between the study independent sub-variables were less than the starting point (0.80) that is considered problematic and significant at 0.01. Consequently, there was no presence of autocorrelation among the independent sub-variables.

4.3. Relationship between Task Structure and Knowledge Transfer

The hypothesis statement: Task structure does not influence knowledge transfer in banking technology projects among Kenyan commercial banks.

Simple regression analysis was conducted to test the statistical significant relationship between task structure and knowledge transfer sub-variable of ease of banking technology use.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.771	0.594	0.590	0.310

Table 3: Linear Regression Model of Task Structure and Ease of Banking Technology Use (EBTU)

a. Predictor: Task Structure (TS)

b. Dependent Variable: Ease Of Banking Technology Use (EBTU)

The correlation coefficient R which is the measure of the strength of the prediction of the dependent variable (Ease of Banking Technology Use) by predictor variable (task structure) depicts a value of $R=0.771$, which indicates a high and a good level of prediction. The coefficient of determination R^2 is the proportion of variance in the dependent variable that is explained or accounted for by the predictor variable. As can be seen from the value of $R^2=0.594$, the predictor variable (task structure) explains 59.4% of the variability of the dependent variable (ease of banking technology use). The remaining 37.9% is explained by other factors and variables other than task structure. The Adjusted $R^2=0.590$ did not change the results substantially as it reduced the explanatory behaviour of the predictor from 59.4% to 59.0%. Therefore, task structure has a positive influence on ease of banking technology use in banking technology projects among Kenyan commercial banks.

Model		Sum of Squares	Df	Mean Square	F	Sig
1	Regression	17.46426	1	17.46426	181.4672	0.000
	Residual	11.93367	124	0.096239		
	Total	29.39793	125			

Table 4: ANOVA Results for Task Structure and Ease of Banking Technology Use (EBTU)

a. Predictors: Task Structure (TS)

b. Dependent Variable: Ease of Banking Technology Use (EBTU)

Table 4 shows the Analysis of Variance (ANOVA) of the influence of task structure (TS) on ease of banking technology use (EBTU) in a banking technology project among Kenyan Commercial Banks. The results with a p-value of 0.000 indicated that the linear model was highly statistically significant in explaining the influence of task structure on ease of technology use. The F statistic of $F(1, 124) = 181.46$ at $p=000<0.05$ confirms that the linear model is statistically significant. Therefore, the hypothesis that there is no significant relationship between task structure and ease of technology use in a banking technology

project among Kenyan Commercial Banks is rejected. The tests show that there is a significant relationship between task structure and Ease of banking technology use (EBTU).

Model		Unstandardized Coefficients		t	Sig.
		Beta	Std Error		
1	Constant	0.729	0.229	3.184	0.010
	Task Structure (TS)	0.801	0.059	13.47	0.000

Table 5: Beta Coefficients of Task Structure on Ease of Banking Technology Use (EBTU)

Table 5 shows the bivariate equation model that shows the relationship between predictor variable (Task Structure-TS) and dependent variable (Ease of Banking Technology Use (EBTU)) $Y = \beta_0 + \beta_1 X \Rightarrow$ Ease of Banking Technology Use (EBTU) = $0.801 + 0.729 \cdot TS$. The results in the coefficient table 4.6 indicated that there is significant relationship between Task Structure (TS) and Ease of Banking Technology Use (EBTU) in a banking technology project among Kenyan commercial banks. The figure 3 below shows the linear relationship between task structure and ease of banking technology use, an indicator of knowledge transfer variable.

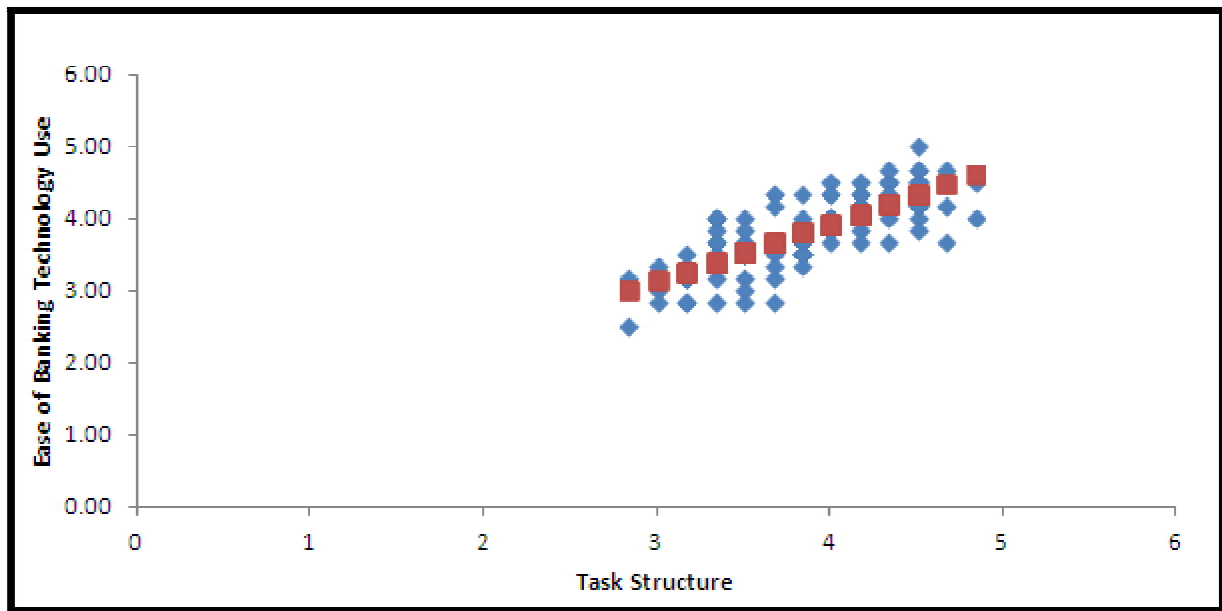


Figure 3: Line Fit Plot for Task Structure and Ease of Banking Technology Use

5. Discussion and Conclusion

The objective of the study was to determine the relationship between task structure and knowledge transfer in banking technology projects among Kenyan commercial banks. The results show that task structure has a strong, positive, direct and significant relationship with knowledge transfer in banking technology projects among Kenyan commercial banks as the correlation coefficient indicated a linear, positive and significant relationship between task structure and knowledge transfer indicators of Ease of banking technology use ($R = 0.771$ and $R^2 = 59.4\%$ at $p = 0.000 < 0.05$).

The Beta (β) coefficient of task structure on the ease of banking technology use ($\beta = 0.801$ at $P = 0.000 < 0.05$) indicates a strong linear relationship.

The correlation matrix coefficients of task structure sub-variables against knowledge transfer sub-variable, ease of banking technology use from the test of correlation matrix indicated a strong relationship namely Clear and well documented defined procedures, and methods ($r = 0.425$, $P < 0.05$), degree of task sequence ($r = 0.415$, $P < 0.05$), clarity on which methods, and tools to be used ($r = 0.255$, $P < 0.05$), clarity on expected outcome for each alternative task sequence ($r = 0.588$, $P < 0.05$), minimal task sequence contradictions which may lead to confusion ($r = 0.312$, $P < 0.05$), tasks are predictable and follows a fairly necessary path ($r = 0.295$, $P < 0.05$).

The study findings agree with other studies (Li & Belkin, 2010; Campbell, 1988; Wang, 1997; Algon, 1999; Vakkari, 2003) who suggest that task structure and other task characteristics have an influence on knowledge transfer behaviours and knowledge seeking behaviours among employees in a team. Li and Belkin (2010) further suggests a task knowledge transfer involves personalised tacit knowledge (expert knowledge) which is embedded in individuals memory (mental model) as a result of past experiences, beliefs, cognitive capability, cultural backgrounds, insights, intuitions etc.

In project-based organisations such as banking technology projects, tacit knowledge may include choice of work processes, appropriate tools, analysing problems, solving problems, expert suggestions, sharing know-how, innovations and past experiences. A well-defined task structure would simplify choice of work process, methods and tools to be used for each task, problem analysis approach etc. Indeed, Nonaka and Takeuchi (1995), in their SECI model of knowledge transfer posit that tacit knowledge can effectively be transferred through the externalisation process. This process involves tacit knowledge being coded into task documents, task manuals, task concepts, task diagrams, and other written documents that support task performance. A well-defined, well documented task structure would therefore enhance knowledge transfer from one project team member to another.

A person who has no previous knowledge of performing a specific task needs to first explore the task knowledge domain, such as task structure to understand the various task perspectives, methods and approaches. This is achieved through externalise process (Nonaka & Takeuchi, 1995). In doing so, a person seeks and acquires knowledge on how to perform the task. After acquiring knowledge, a person has to internalise (Nonaka & Takeuchi, 1995) and apply this knowledge in order to reach specific task goals. Theoretically therefore, when performing a task, knowledge transfer is composed of four dimensions namely; knowledge acquisition, knowledge internalisation, and knowledge application (Nonaka & Takeuchi, 1995) and task structure variable motivates an individual to engage in the four processes.

6. Recommendations

The study shows that task structure influences knowledge transfer in banking technology projects among Kenyan commercial banks. Managers' should pay attention in clearly defining task structure for each project task in banking technology projects. Commercial banks in Kenya should improve on the documentation of task work instructions, user manuals, task procedures etc. Clearly defining task structure for each task in a project assignment is a codification strategy (Grant, 1996) of knowledge management. Consequently, the researcher recommends that commercial banks in Kenya should devote a lot of time and effort in defining task structures for each task that would be undertaken in a banking technology project.

Clarity of task structure is a way of defining how each task would be performed to enhance knowledge transfer. Task structure definition includes having clear and well documented defined procedures, methods and processes for each task. Each task should have a higher degree of task sequence such that it was easy to understand how the tasks should be done. There must be clarity on which methods, process and tools to be used to accomplish each task objectives.

These would lead to less misunderstanding of the expected task outcome, in terms of quality and quantity for each task. Having a clear task structure means that task instructions from different sources are not contradictory which may lead to less confusion when undertaking complementary tasks. Clarity in task structure means that the degree to which the sequence of the actions in tasks is predictable and follows a fairly necessary path.

Task characteristics such as task structure in a technology project organisation occur in a social- technical environment which is a critical component of knowledge work support system. Therefore, an enabling socio-technical approach and knowledge work support system are critical antecedents for knowledge transfer capability. Managers should therefore ensure that an enabling socio-technical environment and a conducive knowledge work support system exist in a banking technology project organisation.

7. Theoretical Implication

This study offered an original contribution to the existing bodies of knowledge on knowledge transfer. The constructs presented in this study highlighted the significance of task structure in understanding of knowledge seeking behaviours and knowledge sharing behaviour in a project organisation. The findings of this study bridged the knowledge gap that exists among literature on the role of social constructs and technology constructs on knowledge transfer.

The other major theoretical contribution of this study is that it empirically supports and extends the Task-Based Knowledge Management framework by Burstein and Linger (2011) and the SECI model of knowledge transfer by Nonaka and Takeuchi (1995). This contribution (empirical support) is a key element of theory development and validation in academic research. This study contributes to the literature debate on the theoretical framework of the SECI model, its universal application and its effect on knowledge transfer in management practice

The Task-Based Knowledge Management framework focuses on both pragmatic (task doing) knowledge outputs and conceptual (task thinking) knowledge outputs, with the two nested interrelated layers explicitly documenting task knowledge related to thinking and doing (Booker *et al.*, 2013). This model allows the knowledge worker to document the task knowledge in a way that is shareable with other actors performing that task. This study integrates the concept of task structure with the material context of knowledge transfer by proposing a generalised way on how task structure motivates individuals to seek knowledge, internalise the knowledge and applying the knowledge. By extending the concept of task structure to include empirical observations on its relationship with knowledge transfer, it provides the basis for developing and testing theories about task structure as a dependent variable, a control variable or a mediating variable. The result of this study could be used as a basis for designing task-oriented knowledge management research.

8. Areas for Further Research

The study focused on the banking technology project organisations among Kenyan commercial banks and therefore there is an opportunity to study other knowledge intensive organisations. Also, there is an opportunity for other scholars to investigate the influence of other intervening variables or moderating variables such as personal knowledge capability, trust, organisational culture, leadership on the relationship between task structure and knowledge transfer in banking technology projects among Kenyan commercial banks.

Lastly, although study collected data on task structure and knowledge transfer sub-variables from the commercial banks' managers by explanatory survey, most data collected were from the respondents' self-reporting. This methodology might limit the validity of the results because of common method bias. Accordingly, in further research a longitudinal design could be employed. In this way, common method bias could be reduced, and conclusions on causal order could be drawn properly.

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