

Reflective team strategic competences, knowledge management practices and their influence on team performance

Kibedi Kasawo Henry

Kyambogo University, Kampala, Uganda

ABSTRACT

Teamwork and knowledge management practices have been advocated for as the main drivers of quality service delivery. Despite several appeals for cross fertilization, research in both fields has progressed in parallel with little effort made to integrate the two. The study assessed the relationships between knowledge management practices and team strategic competences (modeled here as reflective action team learning, team psychological safety, team absorptive capacity and team trust) and their role in explaining variations in team performance. A quasi-experimental non equivalent group design was used to evaluate the effectiveness of the training intervention program. Four teaching hospitals were randomly selected. Basing on validated criteria for inclusion in the sample, 24 and 40 teams were selected at time one and two respectively, to test the hypotheses. At time one and two the study used a sample size of 132 and 193 respondents respectively. Hypotheses were tested using SPSS version 17. Most relational hypotheses results were positive and significant. The regression model indicated that knowledge management practices, reflective action team learning, team trust, team absorptive capacity and team psychological safety predict 58% variations in team performance. Reflective action team learning, team trust and team absorptive capacity were highly consistent predictors of team performance. Hierarchical regression analysis revealed significant interaction effects. Further there was a significant difference between the mean scores of the trained group at time one and time two; and mean scores of the trained and untrained group at time two for all study variables confirming the training intervention effect. Results offer insight for theory and practice in the service sector.

Key words: team strategic competences, knowledge management, team performance.

INTRODUCTION

There is an increasing paradigm shift from individual to team culture as more people are working and learning in teams (Cummings, 2004; Kozlowski & Ilgen, 2006; Rico, de la Hera & Tabernero, 2011). This shift has been attributed to reduction in middle level management, global competition, mergers, acquisitions, and/or dynamic changing work realities in organisations. The success of such organisations and the overall exploitation of knowledge, to a significant extent, depend on team learning and effectiveness (Wuchty, Jones & Uzzi, 2007).

However, the shift has encountered a discontinuous environmental change which is not conducive to traditional knowledge management processes that emphasize convergence and compliance to pre-determined organisational goals (Leonard-Barton, 1995; Nadler, Shaw & Walton, 1995; Arthur, 1996; Malhotra, 2000). This has necessitated the development of new teamwork models. Unfortunately, many of the existing teamwork models are poorly integrated and of less practical use (Salas, Stagl, & Burke, 2004) for meaningful team learning, knowledge articulation and exploitation. Despite multiple appeals for collaboration, research in teamwork and knowledge management fields has progressed in parallel with little effort made to integrate the two practices. Furthermore, knowledge acquisition, creation and transfer practices existing within teamwork processes have not been given enough attention (Zhuge, 2002,) in spite of the fact that teams are vital focal points for active learning, knowledge absorption and reflection (Senge, 1992; Nonaka & Takeuchi, 1995; Argote, 1999; Zellmer-Bruhn, 2003). Very few studies have addressed the need to exploit the intrinsic redundant multiple knowledge bases in teamwork processes. Instead a number of teamwork models predominantly focus on the effects of exogenous determinants on team performance or its outcomes (e.g. Gladstein, 1984; Pearce & Ravlin, 1987; Hackman, 1987; Levine & Moreland, 1990). The majority do not address the team learning and human resource team working aspects of knowledge management as innovations in dynamic environments (Sapsed, et al, 2002) which are characterized by interruptions in routine team tasks and activities.

The definition of the term 'knowledge' is still inconclusive. However, Davenport and Prusak (1998) provide a more inclusive working definition. The scholars refer to knowledge as a fluid mix of framed experiences, values, contextual information and expert insight that provides a framework of evaluating and incorporating new experiences and information in a firm. In this respect the knowledge based view of the firm (KBV) proposes that to attain expected performance in discontinuous environments, firms must exploit new and available knowledge to enhance and sustain competitive advantage (Kogut & Zander, 1993; Grant, 1996a, 1996b) and evidence based practice. However, the KBV model has received its share of criticism. A critical review of the model essential assumptions indicates that they have not been extensively tested empirically at team level. Foremost, while the KBV considers knowledge as the most strategic resource, it is not clear from empirical research, exactly under what teamworking context it is tenable to acquire, transfer, create and apply tacit and explicit knowledge (Eisenhardt & Santos, 2002; Sapsed, Bessant, Partington, Tranfield & Young, 2002; Hakanson, 2010). Furthermore, the KBV theory suggests certain integrative mechanisms to facilitate knowledge management practices within the organisational units (Grant, 1996). However, the reflective team strategic competences and theoretical bases to bridge the gap between lateral knowledge management practices and team performance are still ambiguous.

The current study assesses a framework that addresses the imperfect fit between team knowledge base and expected performance domain. It incorporates team level strategic competences to facilitate team enabled lateral reciprocal reflective action learning and knowledge exploitation. The team strategic competences include: reflective action team learning (tacit knowledge from reflection-in-action), team absorptive capacity (ability to assess, assimilate, and apply new knowledge), team psychological safety (tacit calculus for interpersonal risk taking), team trust (intention to accept vulnerability based upon positive expectations) and shared mental models (collective mind held by team members). These reflective team strategic competences could provide a viable teamworking rationale and theoretical basis for explaining the relationship between lateral knowledge management practices and team performance; and the articulation of tacit knowledge into team explicit knowledge.

Problem

Teams face a challenge of establishing a perfect fit between team knowledge base and required performance. Most adopted teamwork models are insufficiently integrated and of less practical use (Salas, Stagl, & Burke, 2004) in enhancing reflective team learning, psychological safety, knowledge absorption, articulation and exploitation in discontinuous environments. This has led to less meaningful team learning to exploit the multiple and redundant knowledge and competences possessed by team members to sustain team performance. Consequently teams continue failing to attain the high quality service delivery expected of them (Sims, Salas, & Burke, 2005).

Previous research on multi-level knowledge and performance (Davenport, 1994; Griffith & Sawyer, 2010) affirm the little attention focused on how team members go about sourcing, absorbing, reflecting, learning, unlearning, and creating new knowledge for improved team performance. This scenario has negatively impacted on the level of acquisition, transfer and sharing of essential client and managerial knowledge at team level.

Statistics from the health service studies indicate that, globally, more than a million injuries and 98,000 deaths each year are attributable to medical errors which include patient adverse reactions to drugs and irradiations, surgical errors, cross-infections and unnecessary investigations (Kohn, Corrigan & Donaldson, 1999). Of the drug reactions that are preventable, more than a half are caused by insufficient team reflection on patient case history and inappropriate medical prescriptions (Davenport & Glaser, 2002), which are not corrected in good time, presumably, due to psychological insecurity and/or mistrust to share errors, omissions, doubts and knowledge.

Furthermore, the disease burden that lead to routine interruptions in teamwork has adversely affected the Uganda health sector strategic planning including capacity building and knowledge retention (HSSP, 2005). The Uganda Health Care System is still struggling to deal with the rising shortage of health care specialists while striving to provide state-of-the-art health care services to patients (WHO, 2004) with minimal medical errors. However, existing knowledge within this small critical mass of healthcare teams remains in silos or on the sidelines neither used to its maximum potential nor purposely focused on evidence based practice (HSSP, 2005). Unless this adverse trend is reversed, team knowledge sharing, transfer and performance will continue to decline with resultant increase in service delivery errors.

There is need for a team-based knowledge management framework that enables team members to learn and articulate tacit knowledge as they reflect actively on routine and non

routine task experiences in a psychologically safe and trusting work climate, to deliver quality services.

Purpose

The study attempts to examine the relationship between team strategic competences and knowledge management practices and their role in explaining variations in team performance. In addition the effect of the training program is assessed by comparing the trained and untrained groups at time one and two.

Objectives

The study was guided by the following objectives; to

1. Assess the relationship between team strategic competences and knowledge management practices (knowledge acquisition, transfer, creation and application).
2. Assess the predictive potential of knowledge management practices and team strategic Competences (reflective action team learning, team psychological safety, team trust, shared mental models and team absorptive capacity) on team performance.
3. Compare levels (mean scores) of knowledge management practices, team strategic competences and team performance for the trained (intervention) and untrained (control) groups at time one and time two (pre and post testing phases).

Hypotheses

The study was guided by the following hypotheses

1. a. Team psychological safety is significantly related to knowledge management practices (i.e., knowledge acquisition, transfer, creation and application).
- b. Reflective action team learning is significantly related to knowledge management practices.
- c. Shared mental models are significantly related to knowledge management practices.
- d. Team absorptive capacity is significantly related to knowledge management practices.
- e. Team trust is significantly related to knowledge management practices.
- 2). Knowledge management practices, team psychological safety, reflective action team learning, team absorptive capacity, team trust and shared mental models significantly

predict variation in team performance.

- 3) a. There is a significant difference between the time one and time two study mean scores for the trained (intervention) group.
- b. There is a significant difference between time one and time two study mean scores for the untrained (control) group.
- c. There is a significant difference between mean scores of the trained (intervention) and untrained (control) groups at time two for each study variable.
- d. There is a significant difference among mean scores of the trained, first untrained and second untrained comparison groups at time two.

Scope

The study covered service delivery teams purposively selected from the health sector and specifically from government aided teaching hospitals in Uganda. The teams were interdependent, semi-autonomous and regularly involved in case problem solving. They included healthcare teams from medical and surgical wards. Healthcare teams emphasize evidence based practice and handle routine and nonroutine cases on a daily basis thereby presenting a very vital context in which to study the explanatory power of knowledge based view of the firm and team learning theories.

Content scope of the study was limited to the interrelationships between knowledge management practices and team strategic competences (reflective action team learning, team psychological safety, team absorptive capacity, team trust and shared mental models) and their predictive potential on team performance. The study focused on critical voids in knowledge based research and teamwork by examining the team based knowledge management conceptual framework.

In terms of time scope, the study involved a pretest consisting of questionnaire administration at time one; an intervention training period; and post-test with administration of similar instruments at time two. A six month period was allowed between time one and time two for team synergy and reflective practice to have a temporal effect.

Significance

Globally, the service industry continues to recognize the relevance of knowledge as a driver for evidence based professional practice and quality service delivery. The sector stands to gain from enhanced comprehension of the antecedents and consequences of knowledge management practices in service delivery teams. However, unless teams learn to transfer and create knowledge, organisations cannot learn to sustain performance. A better understanding of team performance as being a function of knowledge management practices and team strategic competences will help concretize the explanatory power of knowledge based view and team learning theory.

The team-based knowledge management framework will enable service workers particularly in the health sector to have an easy way to reflect, discuss, dialogue and access others' explicit and tacit knowledge in good time, to minimize or eliminate medical errors in

drug prescriptions, surgical procedures, request for diagnostic investigative tests and pre and post operative patient management.

METHODS

Research Design

A quasi-experimental non equivalent group design was used for this study to evaluate the effectiveness of the intervention program on service delivery teams, selected from government aided teaching hospitals. The design is appropriate when random assignment is impossible; and when causal conclusions cannot be drawn due to incomplete control over variables in the study. The focus on only a single (health) industry reduces the potential organisational differences in knowledge management practices, reflective practice and psychological safety.

Study Population

The study population comprised of approximately 1200 registered active health workers from four government aided teaching hospitals (V, X, Y and Z) in Uganda, Hospital names were disguised with letters to provide anonymity as requested by hospital authorities. The study population comprised of consultants, medical officers, postgraduate trainees, interns, nurses and paramedicals working interdependently and semi-autonomously in teams. Government teaching hospitals are government aided public health facilities that deliver curative, preventive and promotive healthcare services to citizens and also supervise, impart knowledge and skills to trainees

Sampling Strategy

The health service sector was purposely selected from service organisations because it is highly knowledge driven and deals with problem solving related to routine and nonroutine medical cases on a daily basis. To analyse team strategic competences and knowledge management practices health care teams were selected from government aided teaching hospitals. Teamwork is a core requirement of health care delivery. Four teaching hospitals were randomly selected using the secured sampling frame from Ministry of Health to test the hypotheses. One hospital was used for the pilot study for testing the instruments whereas the other three served as the primary sample. Of these three, one served as an intervention (trained) group and two other teaching hospitals as first control (untrained) and second comparison group. Basing on Hackman (2002) criteria, the teams to be included were prescreened and only those with three or more members, had clearly defined tasks, clear boundaries, and formal specified authority to manage their own work processes, and had stable membership were selected. The criteria for selecting and retaining team members were based on: stable membership for a period of at least three months, regular interaction at least twice a week and full time health practitioner. The hospital staff were assured that their individual, team and organisational data base would remain confidential and their identities anonymous in the results report.

Following the above criteria, only 24 and 40 ward teams met the criteria at time one and time two respectively; and were retained for the study. The final sample included both surgical (68.2%) and medical (31.8%) team members. The surgical teams comprised of a number of subcategories including Orthopedics, Obstetrics and Gynaecology, General surgery and Intensive care units whereas medical teams consisted of Paediatrics and adult medical units. The hospitals

were later operationally categorized into trained (intervention), untrained (control) and second comparison (second untrained) groups.

Sample Characteristics

At time one, 132 respondents (96 females and 36 males) participated in the quasi-experimental study. Surgical healthcare teams were over represented with 90 team members (68.2%) whereas medical teams constituted 42 members (31.8%). At training phase, the hospital teams comprised of an intervention (trained) group with 69 (52.3%) respondents and control (untrained) group with 63 (47.7%) respondents. However, at time two, 193 respondents participated in the post-test study and comprised of trained (69 respondents), untrained (62 respondents) and second comparison (62 respondents) groups. The third comparison group was added to control for Hawthorne effect.

The majority of team respondents had had an organisational tenure of 6-10 years (31.1%), followed by 1-5 years (30.3%) and least 11-15 years (12.1%). Team size varied in composition with most ward teams reporting from 6-10 full time members (41.7%), followed by some reporting 11-15 members (27.3%).

Instruments and Measurements

The questionnaires had sections of demographic information on teams and member attributes, and major variables under study including knowledge management practices, team performance and team strategic competences (which were measured by reflective action team learning, shared mental models, team absorptive capacity, team psychological safety, and team trust). A pilot testing of the instruments was conducted. The pilot testing ensured that test items are internally consistent, participants respond in accord with the instructions, how to handle unanticipated problems, and gauge how long respondents take to fill the questionnaire.

Reliability and Validity

A reliability test was conducted to assess the internal consistency of scale test items. Cronbach's alpha reliability test is the most predominantly used coefficient (Garson, 2005) and was therefore utilized for the current study. Cronbach alpha coefficient results of knowledge management practices (.81), team psychological safety (.91), reflective action team learning (.95), team trust (.96), shared mental models (.97), team performance (.89), and team psychological safety (.79) were above Cronbach alpha value .70 and therefore considered satisfactory (Nunnally & Bernstein, 1994). Construct validity of most adopted scales had been tested and operationalised by earlier researchers. However, factor analysis was performed to validate the construct dimensions. In addition data was aggregated to team level. The instruments were used to collect data in subsequent phases at time one and time two.

Quasi Experimental Procedure

The experimental sample comprised of untrained (47.7%) and trained (52.3%) groups selected from healthcare teams. This was the sample which provided primary data for hypotheses testing. The procedure had three phases namely, time one phase, training intervention phase and time two phase as described below:

Time one phase

Four research assistants who are conversant with health related practices were purposively selected. They were trained as instrument administrators for one week by a group of medical and psychology experts. The training covered a number of topics including tool administration skills, knowledge management practices, team strategic competences, and procedure for profiling shared mental models. The research assistants assisted the principal researcher to collect data from respondents initially at time one before teams commenced training intervention. At time one 132 team respondents participated in the study. They had the purpose and objectives of the study explained to them as a way of eliciting their consent and motivation to participate in the study. Data was collected quantitatively at time one using questionnaire administration. Two teams were excluded from the analysis at time one because majority of their members were absent/or out on community outreach public health programs.

Team level intervention

The intervention (trained) group faced intensive training in reflective action learning/reflective practice, team psychological safety mentoring and profiling of shared mental models and complimentary knowledge whereas the control group remained untrained. The intervention group/teams spent six months together which allowed the nature of their interaction to develop. The design of the study allowed opportunities to obtain feedback through debriefing- a prerequisite for developing team strategic competences and capacities. Thus, for the purpose of this study the gain in or emergence of knowledge management practices and team strategic competences at two time periods were investigated without directly assessing time as a predictor of change.

Taking knowledge to be contextually resident in teams/groups of practitioners, the team level training intervention was based on the following assumptions;

1. Articulation, exploitation and integration of tacit and explicit knowledge is a function of unique team strategic competences.
2. Team performance depends on the level of knowledge exploitation, that is, the degree to which the firm/team successfully converts knowledge into planned outcomes.
3. Clarity/profiling of shared mental models promotes team synergy and enhances team performance
4. Team level strategic competences provide a rationale for explaining the relationship between lateral knowledge management practices and team performance.

The general aim of the training intervention was to articulate and integrate tacit and explicit knowledge through reflective practice, profiling of shared mental models (team and task shared knowledge) and complimentary knowledge under a psychologically safe work climate. The intervention group received weekly two hour intensive training based on the investigation framework/model; and was designed in accordance with the training and learning goals. In line with Edmondson's (2002) observation, team learning process consisted of iterative cycle of action, reflection and adjustment to routine work. This repeated action and reflection allowed teams to access knowledge they were unconscious of and learn to use it appropriately.

Reflective inquiry is an iterative feedback of team members' perspective for active reflection and learning. The process makes explicit and testable many of the key mental models and assumptions that were previously tacit and individual. This allowed mental models and complimentary knowledge to be examined, profiled and tested. In this way shared active reflection allowed surfacing of team tacit knowledge relative to focal ward tasks to transfer it to explicit domain. Additionally, reflection allows team members to recapture their experience, reconsider it in a wider context and evaluate it in the light of the worst possible situation (Yoong, 1999; Schon, 1983). Furthermore, participants received handouts and charts during each training session.

After building a rapport aimed at sustaining team psychological safety and dialogue, reflective profiling of shared mental models (team and task knowledge) and complementary knowledge was actively carried out. Thus after the profiling experience, a processing phase ensued. This allowed space for reflection, allowing team members to think through deep rooted issues pertaining to ward team tasks and interaction. The process of active reflection and learning helped the team to uncover knowledge they have never been conscious of, check whether it was valid for the planned goal and if not develop alternate methods of improving knowledge sharing and team performance (Nonaka, 1996).

The training intervention process was guided by the following questions:

- i). What is the vision and mission of this hospital?
- ii). What routine and nonroutine cases do you handle as a ward team/unit?
- iii). What are the common shared tasks on the ward/unit?
- iv). What shared knowledge do you require to succeed in each of the above shared tasks?
- v). How do you acquire and transfer knowledge in your ward team?
- vi). What kind of professionals do you reflectively interact with on your ward unit?
- vii). What is the theoretical and procedural content of this reflective and active team interaction?
- viii). What kind of medical/surgical errors, omissions and knowledge do you reflect on and share on the wards?

- ix). What hard collective decisions do you make to succeed in healthcare delivery?
- x). Do you feel psychologically safe to share procedural errors, omissions, doubts and knowledge in medical care? If not, why?
- xi). What should be done to promote a psychologically safe work climate?
- xii). What units are responsible for knowledge management in the hospital?

Team de-briefing (case sharing) and self correction under a psychologically safe climate was practiced at round table focus group/team discussions. However, the control group did not receive any training intervention.

Time two phase/post test

During time two, following completion of training task, the same questionnaires tapping into respondents' perceptions of knowledge management practices, reflective action team learning, team absorptive capacity, shared mental models, team trust, team psychological safety and team performance were administered to a sample of 193 respondents. The sample comprised of the trained group (69 respondents), untrained group (62 respondents) and a second comparison group (62 respondents) to control for Hawthorne effect.

The questionnaire administration was conducted after a specified period (six months) of synergy following training intervention. Data was analyzed at time one and two for all groups involved. To control for team mortality, only teams with significant complete participation at both time one and time two were included in the final analysis.

Data Analysis

Special package for social scientists (SPSS) was used to analyse data. Frequency counts and percentages were used to present team demographic information related to gender, tenure, team size, team diversity and type. Pearson's correlation test was used to assess relationships between study variables for hypotheses 1a,b,c,d, e. Further, hypothesis 2 was tested using linear multiple regression and hierarchical regression analysis tests, SPSS-17 (Bell, Mengue, & Stefani, 2004). A test for interaction effect was conducted by regressing team performance on independent and interaction variables. All the models were tested for multi-linearity by computing the variance inflation factor (VIF) for each regression coefficient. The results indicated that multi-linearity did not impact the results.

Additionally, hypotheses 3a, 3b, 3c were tested using paired samples t-test; and hypothesis 5d, by independent t-group test to analyze the differences between the trained (intervention) and untrained (control) groups on the study variables. The t-test has high potential for detecting differences between group means. The magnitude of the difference in the group means at time one and two was attained by computing the effect size (Cohen, 1988). Furthermore, hypothesis 3d was tested using ANOVA to assess the differences among the three groups (trained, first untrained and second comparison groups).

FINDINGS

Relationships between study variables

a). The first hypothesis (1a) of this study stated that there was a significant relationship between team psychological safety and knowledge management practices (knowledge acquisition, transfer, creation, documentation and application). The results (Table 4, appendix 1) indicated that there was a significant positive relationship between team psychological safety and knowledge acquisition ($r = .47$; $p = .00$), knowledge transfer ($r = .39$; $p = .00$), knowledge creation ($r = .47$; $p = .00$) and knowledge documentation ($r = .33$; $p = .00$).

The results show that the strength of correlation coefficients was significantly higher between team psychological safety and knowledge acquisition; and knowledge creation. This was further confirmed by regression analysis results which indicated that team psychological safety could explain a proportion of 22% variance in knowledge acquisition ($R^2 = .22$, $F = 36.2$, $p < .001$); 22% in knowledge creation ($R^2 = .22$, $F = 36.80$, $p < .001$); 15% variance in knowledge transfer ($R^2 = .15$, $F = 22.97$, $p < .001$); and 11% variance in knowledge documentation ($R^2 = .11$, $F = 15.86$, $p < .001$) respectively.

However, the results also revealed no significant relationship between team psychological safety and knowledge application ($r = .07$; $p = .46$). Given that four sub variables of knowledge management practices in the model are positively related to team psychological safety, the hypothesis is supported for only knowledge acquisition, transfer, documentation, and creation. As team psychological safety level improves in terms of reduced interpersonal risk, courage to ask questions, speaking up, seeking feedback, experimenting, reflecting on results, sharing information and discussing errors, there is concurrent increase in the levels of knowledge acquisition, transfer, creation and documentation to enhance quality service delivery.

b) Hypothesis (1b) stated that there was a significant relationship between reflective action team learning and knowledge management practices. The results (Table 4, appendix 1) indicated a significant positive relationship between reflective action team learning and knowledge creation ($r = .29$; $p = .00$) although the strength of the relationship was moderately low. In addition regression analysis results revealed that 9% of variance in knowledge creation could be explained by reflective action team learning ($R^2 = .09$, $F = 12.05$, $p < .001$). However, the relationship between reflective action team learning and knowledge acquisition ($r = .01$; $p = .89$); transfer ($r = .07$; $p = .45$); documentation ($r = .11$; $p = .22$) and application ($r = .07$; $p = .45$) were not significant. Therefore the hypothesis is supported for only reflective action team learning and knowledge creation. As reflective action team learning improves in terms of revisiting and reflecting on routine and nonroutine cases, sharing experiences, reaching dialogue, learning by doing and debriefing, there will be a significant enhancement in knowledge creation/improvisation by healthcare teams.

c) Hypothesis (1c) stated that there was a significant relationship between shared mental models and knowledge management practices in government aided teaching hospitals. The results (Table 4, appendix 1) showed a significant positive relationship between shared mental models and knowledge acquisition ($r = .58$; $p = .00$); knowledge documentation ($r = .49$; $p = .00$); knowledge transfer ($r = .22$; $p = .01$) and knowledge creation ($r = .36$; $p = .00$). Additionally, regression analysis results showed that shared mental models explain 34% variance

in knowledge acquisition ($R^2 = .34$, $F = 65.98$, $p < .001$); 24% variance in knowledge documentation ($R^2 = .24$, $F = 41.58$, $p < .001$); 13% in knowledge creation ($R^2 = .13$, $F = 19.51$, $p < .001$) and 5% variance in knowledge transfer ($R^2 = .05$, $F = 6.64$, $p < .001$). Strength of correlation was stronger between shared mental model and acquisition. However, there was no significant relationship between shared mental models and knowledge application ($r = .06$; $p = .47$).

Given that four sub variables of knowledge management practices in the model are related to shared mental models, the hypothesis is partially supported for only knowledge acquisition, documentation, transfer, and creation. This suggests that as the level of knowledge acquisition, transfer, creation and documentation increases, there will be a corresponding improvement in shared knowledge schemas (shared mental models) that help mold team knowledge, interaction and task comprehension.

d) Hypotheses (1d) stated that there was a significant relationship between team absorptive capacity and knowledge management practices. The results (Table 4, appendix 1) indicated a significant positive relationship between team absorptive capacity and knowledge acquisition ($r = .66$; $p = .00$), knowledge transfer ($r = .22$; $p = .01$), knowledge documentation ($r = .57$; $p = .00$); and knowledge creation ($r = .26$; $p = .00$). The highest coefficient was registered by knowledge acquisition and was more significant. Regression analysis results indicate that team absorptive capacity explains 44% variance in knowledge acquisition ($R^2 = .44$, $F = 100.1$, $p < .001$); 5% in knowledge transfer ($R^2 = .05$, $F = 6.79$, $p < .01$); 7% in knowledge creation ($R^2 = .07$, $F = 9.50$, $p < .001$) and 32% variation in knowledge documentation ($R^2 = .32$, $F = 62.40$, $p < .01$).

The hypothesis is supported for four sub variables; knowledge acquisition, transfer, documentation and creation. As the level of team absorptive capacity improves in terms of knowledge assessment, assimilation and application, the propensity to acquire, transfer, create and document knowledge also increases in healthcare teams. However, the higher coefficient of determination between team absorptive capacity and knowledge acquisition compared to the other knowledge subscales indicate that team absorptive capacity has more pronounced effect on the team's capacity to acquire knowledge.

e) Hypothesis (1e) stated that there was a significant relationship between team trust and knowledge management practices. The results (Table 4, appendix 1) showed a significant positive relationship between team trust and knowledge acquisition ($r = .48$; $p = .00$), knowledge transfer ($r = .25$; $p = .01$), knowledge documentation ($r = .49$; $p = .00$) and knowledge creation ($r = .40$; $p = .00$). Regression analysis results indicate that team trust explains 23% variance in knowledge acquisition ($R^2 = .23$, $F = 38.36$, $p < .001$); 6% variance in knowledge transfer ($R^2 = .06$, $F = 8.36$, $p < .001$); 16% in knowledge creation ($R^2 = .16$, $F = 24.36$, $p < .001$) and 24% variance in knowledge documentation ($R^2 = .24$, $F = 40.31$, $p < .001$)

The hypothesis is therefore supported for knowledge acquisition, transfer, documentation and creation. Team trust is positively and significantly related to knowledge acquisition, transfer, documentation and creation. These results suggest that improvement in interpersonal team trust enhances the levels of knowledge acquisition, transfer, creation and documentation.

Pearson's correlation test analysis results (Table 4, appendix 1) showed positive significant relationship between: team psychological safety and team performance ($r = .50, p = .00$) with regression analysis results indicating that 26% variance in team performance could be explained by team psychological safety ($R^2 = .26, F = 37.43, p < .001$). Results also showed a significant positive relationship between reflective action team learning and team performance ($r = .44, p = .00$) with regression analysis results indicating that 19% variance in team performance could be explained by reflective action team learning ($R^2 = .19, F = 30.49, p < .001$).

Furthermore, results indicated a significant positive linkage between: team trust and team performance ($r = .52, p = .00$) with regression analysis findings (Table 56, appendix A) showing that team trust explains 27% variance in team performance ($R^2 = .27, F = 235.24, p < .001$). In addition, there was a significant relationship team absorptive capacity and team performance ($r = .57, p = .00$). The regression analysis results showed that 32% variance in team performance could be explained by team absorptive capacity ($R^2 = .32, F = 409.14, p < .001$).

Similarly, there was a significant positive relationship between (subscales of team absorptive capacity) capacity for knowledge assimilation and team performance ($r = .57, p = .00$); capacity for knowledge application and team performance ($r = .59, p = .00$); capacity for knowledge assessment and team performance ($r = .65, p = .00$). These subscale coefficients were significantly higher compared to global team absorptive coefficients, pointing to their differential effect on team performance.

Results also showed a significant positive relationship between shared mental models and team performance ($r = .52; p = .00$); task shared mental models and team performance ($r = .52, p = .00$); team shared mental models and team performance ($r = .54, p = .00$); and shared attitudes and team performance ($r = .37, p = .00$). Regression analysis results indicated that 27% variance in team performance could be explained by shared mental models ($R^2 = .27, F = 67.86, p < .001$). The coefficients of shared mental models, its subscales and team performance were moderately and significantly higher indicating their relevance in enhancing team performance.

Thus team absorptive capacity, shared mental models and team trust have stronger effects on team performance compared to other team strategic competences. Increase in levels of team psychological safety, reflective action team learning, team trust, team absorptive capacity and shared mental models enhance team performance and therefore better service delivery.

Predictors of team performance

Hypothesis (3) stated that knowledge management practices and team strategic competences significantly predict team performance. The findings from linear multiple regression (Table 5, appendix 1) showed that knowledge management practices, reflective action team learning, team trust, team absorptive capacity, shared mental models, and team psychological safety have 58% predictive power over team performance, that is the model explains 58% variance in team performance. However, reflective action team learning ($\beta = .18; t = 3.76; p = .00$), team trust ($\beta = .38; t = 2.60; p = .01$) and team absorptive capacity ($\beta = .31; t = 2.54; p = .01$) are highly significant predictors of variance in team performance.

Given that only three variables in the model were significantly linked to variations in team performance, the hypothesis is accepted for only reflective action team learning, team trust and

team absorptive capacity. Team performance significantly varies as a function of improved ratings on reflective action team learning, team trust and team absorptive capacity.

The hierarchical multiple regression results (Table 6, appendix 1) indicated that:

Model 1; Team size accounted for 4% variation in team performance ($\Delta R^2 = .04$, $F = 5.43$, $p < .05$) and was statistically significant.

Model 2; Knowledge management practices accounted for 1% variation in team performance ($\Delta R^2 = .01$, $F = 3.51$, $p > .01$). However, the overall model was not significant ($p > .01$).

Model 3; Adjusted R^2 value was 20%. This implies that 20% variance in team performance is attributable to knowledge management practices, reflective action team learning and team size. The overall (R^2) prediction improved from 5% to 22%. The results also indicate that knowledge management practice became a better predictor of team performance ($\beta = .11$; $p < .01$) on interacting with reflective action team learning in model three. Reflective action team learning accounted for 17% variance in team performance ($\Delta R^2 = .17$, $F = 11.86$, $p < .01$); and the model was statistically significant ($p < .01$).

Model 4; Adjusted R^2 was 57%. This implies that 57% of variance in team performance is attributable to knowledge management practices, reflective action team learning and team trust. The overall prediction improved from 22% to 57%. The results therefore show that team trust accounted for 35% variance in team performance ($\Delta R^2 = .35$, $F = 209.97$, $p < .01$). Additionally, knowledge management practices became better predictor of team performance ($\beta = .12$; $p < .01$) on further interaction with team trust. The model was statistically significant ($p < .01$).

Model 5; Adjusted R^2 value was 58%. This implies that 58% of variance in team performance is attributable to knowledge management practices, reflective action team learning, team trust and team absorptive capacity. The overall R^2 improved from 57% to 59%. Thus team absorptive capacity accounted for 2% variation in team performance ($\Delta R^2 = .02$, $F = 197.36$, $p < .01$); and the model was statistically significant ($p < .01$).

Model 6; team psychological safety was insignificant ($\Delta R^2 = .00$, $F = 163.36$, $p > .01$); and Model 7, shared mental model was also not significant ($\Delta R^2 = .00$, $F = 140.84$, $p > .05$).

The results from hierarchical regression analysis indicate that reflective action team learning, team trust and team absorptive capacity consistently and significantly predict variations in team performance in government aided teaching hospitals. In addition, knowledge management practices prediction potential on variation in team performance improved on interacting with reflective action team learning (model 2) and team trust (model 3). This suggests that the strength of the relationship between knowledge management practices and team performance improves with better ratings of reflective action team learning, team trust and team absorptive capacity. However, 42% of variance in team performance could be attributed to other factors apart from the above tested predictors. This therefore calls for further research in the area of team performance to establish the factors that contribute to the remaining 42%.

Comparison of Trained and Untrained Groups Mean Scores on Study Variables

Comparison of trained group mean scores at time one and two

Hypothesis (3a) states that there is a significant difference between the means of trained (intervention) group at time one and time two.

Research indicates that sometimes a significant t-statistics may not reflect optimum effect in practical terms. To confirm whether the effect is substantive, effect sizes were computed. Findings (Table 9, appendix 1) indicate that the mean scores of the trained group at time two are significantly higher than mean scores at time one for all study variables. There is a significant difference between the means of the trained group at time one and time two with regard to:

- i) Knowledge management practices ($t = .77$; $p = .04$; $effect\ size = .07$) with time two mean 3.95 (SD = .36) being higher than time one mean 3.50 (SD = .35).
The effect size is small but nevertheless significant. The results suggest that training intervention in reflective action team learning and psychological safety mentoring had significant effect in enabling team members reflect on prior experiences, surface knowledge they had been unconscious of and enhance knowledge acquisition, transfer and creation practices.
- ii) Shared mental models ($t = .31$; $p = .03$; $effect\ size = .03$) with time two mean 3.07 (SD = .45) reportedly higher than time one mean 3.00 (SD = .46). The effect size is small but significant. This implies that psychological safety mentoring and shared reflective profiling of shared mental models during the training phase enabled team members to articulate tacit knowledge into explicit shared knowledge.
- iii) Team absorptive capacity ($t = .18$; $p = .00$; $effect\ size = .02$) with time two mean 3.74 (SD = .46) being greater than time one mean 3.46 (SD = .47). The effect size is small but significant suggesting that the training intervention had an appreciable effect on team absorptive capacity in terms of knowledge assessment, assimilation and application.
- iv) Reflective action team learning ($t = .47$; $p = .04$; $effect\ size = .04$) with time two mean 3.76 (SD = .64) reportedly higher than time one mean 3.64 (SD = .66). This effect size is also small but conspicuously significant suggesting that the level of active reflection and learning improves with time and practice.
- v) Team psychological safety ($t = .33$; $p = .00$; $effect\ size = .03$) with time two mean 3.38 (SD = .74) being higher than time one mean 3.17 (SD = .77). The effect size is small but significant. This implies that team psychological safety can be improved with supportive mentoring of team members over a temporal training period and during active working schedules through open discussion and dialogue with reduced anticipated risk.
- vi) Team performance ($t = .85$; $p = .00$; $effect\ size = .72$) with time two mean 3.40 (SD = .41) being higher than time one mean value 3.21 (SD = .55). This effect size is big suggesting that team performance improves with additive team enabled reciprocal reflective action learning, psychological safety, absorptive capacity and knowledge management practices.

However, the results show no significant difference between the means of the trained group at time one and two with regard to team trust ($t = .24$; $p = .81$; *effect size* = .02) This implies that the training intervention did not have a significant impact on team trust although the mean score of time two (M (SD) = 3.36 (.65) was greater than time one (M (SD) = 3.15 (.69). Since the training period was exceptionally short, it may also imply that managing and inculcating team trust among team members requires more time to take effect.

Therefore the hypothesis is supported for only knowledge management practices, shared mental model, team absorptive capacity, reflective action team learning, team psychological safety, and team performance.

Comparison of untrained group means scores at time one and two

Hypothesis (3b) states that there is a significant difference between time one and time two mean scores for the untrained group. The findings (Table 10, appendix 1) indicate no significant difference between the means of the untrained group at time one and two regarding knowledge management practices ($t = .23$; $p = .82$; *effect size* = .02); team trust ($t = .06$; $p = .95$; *effect size* = .01); shared mental models ($t = .13$; $p = .88$; *effect size* = .01); team absorptive capacity ($t = .06$; $p = .95$; *effect size* = .01); reflective action team learning ($t = .03$; $p = .98$); team psychological safety ($t = .03$; $p = .97$); and team performance ($t = .16$; $p = .87$; *effect size* = .01) indicating negligible effect sizes. Hypothesis (5c) is not supported. There is no significant difference between time one and two mean scores for the untrained group. Thus in addition to being insignificant, the effect sizes for untrained group are also negligible due to their exclusion from the intervention training program.

Comparison of trained and untrained group mean scores at time two

Hypothesis (3c) states that there is a significant difference between means of trained group and untrained group at time two for each study variable. The results (Table 11, appendix 1) show significant differences between the mean scores of study variables for the trained and untrained group at time two regarding

- i) Knowledge management practices ($t = .01$; $p = .04$; *effect size* = .06). This result indicates a substantial effect size. The mean score of the trained group is higher than that of untrained group suggesting that the intervention program could explain the difference between the two groups with regard to level of knowledge acquisition, transfer, creation and application practices.
- ii) Team trust ($t = 7.87$; $p = .00$; *effect size* = .57). The result shows a high effect size. The mean score of the trained group at time two is greater than that of the untrained group. This implies that team psychological safety mentoring in interface with active reflective learning significantly improves team trust levels. It also suggests that team trust can be managed and flourishes in a climate of shared reflective practice and psychological safety.
- iii) Shared mental models ($t = 19.30$; $p = .00$; *effect size* = .86). The shared mental model mean score for the trained group is higher than that of the untrained group. The training intervention had the highest effect size on shared mental models. This suggests that incorporating shared active reflective learning and psychological safety mentoring into training programs enhances shared mental models and consequently team synergy.

- iv) Team absorptive capacity ($t = 8.82$; $p = .00$; *effect size* = .61). This is a large effect size. The mean score of the trained group is higher than that of untrained group suggesting that the intervention program had a strong significant impact on team absorptive capacity in terms of knowledge assimilation, assessment and application.
- v) Reflective action team learning ($t = 1.37$; $p = .02$; *effect size* = .12). The mean score of the trained group is higher than that of the untrained group. The effect size is substantial suggesting that reflective action learning improves with training but under conditions of psychological safety.
- vi) Team psychological safety ($t = 8.71$; $p = .00$; *effect size* = .61). The mean score of the trained group is greater than that of the untrained group. The effect size is high suggesting that the training program had an appreciable impact on team psychological safety of the teams that faced the intervention.
- vii) Team performance ($t = 2.16$; $p = .03$; *effect size* = .19). The trained group means score on team performance is higher than untrained group mean score at time two. The effect size is substantial implying that shared reflective action learning and psychological safety mentoring intervention program had a significant impact on team performance.

The hypothesis is therefore supported. Thus as well as being statistically significant the effect sizes of study variables are relatively bigger and represent a vital finding. The training intervention contributed to significant large effect sizes of study variables at time two. The results also show that there were negligible changes in the untrained group mean scores at time two suggesting that the differences in magnitude between the two groups could be attributed to the training intervention. The overall results imply that reflective action team learning and psychological safety mentoring enables team members to reflectively articulate shared mental models and complimentary knowledge into explicit knowledge, improve level of team absorptive capacity, knowledge management practices and team performance.

Comparison of trained, first untrained and second comparison groups:

Hypothesis (3d) states that there is a significant difference among mean scores of the trained, first untrained and second comparison group at time two.

During time two (post-test) a third comparison group was introduced to control for the effects (Hawthorne effect) that could have arisen as a result of interacting with the other groups during pretest. Findings (Table 12, appendix 1) indicate significant differences among the mean scores of the three groups with regard to knowledge management practices ($F = 5.01$, $df = 2$, $p < .01$). There is greater improvement in knowledge management practices with the trained group following training intervention compared to the two control groups. In addition, there was also a significant difference among the mean scores of the three groups with regard to team trust ($F = 18.09$, $df = 2$, $p < .01$); shared mental models ($F = 85.45$, $df = 2$, $p < .01$); team absorptive capacity ($F = 35.26$, $df = 2$, $p < .01$); reflective action team learning ($F = 80.40$, $df = 2$, $p < .01$); team psychological safety ($F = 72.16$, $df = 2$, $p < .01$); and team performance ($F = 25.56$, $df = 2$, $p < .01$) with the trained group registering the highest mean values on all study variables. This suggests that Hawthorne effect did not impact the results. It implies that the trained group noticeable change in mean scores magnitude was due to the training program intervention.

DISCUSSION

Team Psychological Safety and Knowledge Management Practice

The results (Table 4, appendix 1) indicated a significant positive relationship between team psychological safety and knowledge acquisition, transfer, and creation. These results are in agreement with Edmondson's (2002) observation that team psychological safety enhances active reflection and facilitates knowledge acquisition and transfer. Creating conditions of psychological safety is essential to laying a platform for effective reflection, acquisition, transfer and creation of knowledge at team level. It influences team mates to construct tacit questions that enable them decide on potential action and proceed against interpersonal risk of sharing knowledge and errors (Edmondson, 1999).

The results also concur with Gardiner, Gino and Staats, (2011) findings that demonstrated that team dynamism associated with the interaction between team psychological safety and knowledge management processes promotes capacity of team members to articulate and integrate knowledge. Teams with insufficient levels of team psychological safety will fear to share knowledge and speak up against mistakes freely due to anticipated interpersonal risk.

Reflective Action Team Learning and Knowledge Management Practices

The results (Table 4, appendix 1) indicating a significant positive relationship between reflective action team learning and knowledge creation concur with Caine and Caine, (1991) arguments that the confluence of experiences (action) and thoughts (reflection) combine to create new knowledge. The results also agree with Brookfield's (1987) assertion that unpacking tacit knowledge (experiences, thoughts and shared mental models) through active reflection creates explicit knowledge. This suggests that as reflective action team learning improves in terms of revisiting and reflecting on routine and nonroutine medical cases, sharing professional practice experiences, reaching dialogue, learning by doing, unlearning unethical practices and debriefing, there is a significant enhancement in knowledge creation or improvisation in teams.

Improvement in knowledge creation in the health sector teams could be exhibited through redesigning investigative, assessment and treatment techniques; openly discussing problems, errors, and doubts in work teams. It also includes reflecting on and discussing work experiences and strategies; exploring vital issues using scenarios and simulation techniques and strategies; and rewarding team members for developing new knowledge and testing new ideas.

The results also support Nonaka and Takeuchi (1995) rationalization that knowledge creation is performed on the basis of existing knowledge possessed by a team member and the knowledge acquired from outside through learning to deliver on a given task. It thus involves knowledge combination (explicit to explicit) process of grouping, new classification, summarization and aggregation (Nonaka & Takeuch, 1995).

Shared Mental Models and Knowledge Management Practices

The results (Table 4, appendix 1) reaffirmed a significant positive relationship between shared mental models and knowledge acquisition, transfer, creation and documentation. The results are in agreement with Klimoski and Bell, (2003) study findings which affirmed that shared mental models influence team effectiveness and performance by facilitating interactive knowledge acquisition and transfer team processes. They also partially concur with Levine and

Moreland, (1990), assertion that members' mental models influence team performance when knowledge schemas are configured to align with assigned roles, tasks and shared/transferred knowledge. When teams actively reflect on their past experiences and behaviour they develop target goals which require unpacking shared mental models that directly influence knowledge acquisition, creation, transfer and thus team synergy.

Furthermore, the findings also revealed that prior to training intervention team members thought that their shared mental models (team and task shared knowledge) were clear to them. Following training intervention, however, their awareness of team and task shared mental models required for team performance increased significantly (Table 9, appendix 1). This implies that shared mental models before the profiling process may have been in the sub consciousness (tacit knowledge) and they may not have thought that they were relevant to team synergy (Mukherjee & Malhotra, 2006) and optimal ward patient care and management.

Team Absorptive Capacity and Knowledge Management Practices

The results (Table 4, appendix 1) indicated a significant positive relationship between team absorptive capacity and knowledge acquisition, transfer and creation. These results support Lane et al, (2006) studies that established that team absorptive capacity is a major determinant of knowledge transfer and acquisition processes; and Szulanski, (1996); Lyles and Salk, (1996); Gupta and Govindarajani, (2000) findings that the greater the team absorptive capacity the higher the degree of knowledge transfer and acquisition expected. A high team absorptive capacity allows team mates to comprehend the complementarities of knowledge received thus facilitating the ability to combine the acquired and transferred knowledge in a meaningful manner.

The results also contribute to the increasing belief that team absorptive capacity improves team members' awareness of the niche of available expertise knowledge in their team, reduces interpretive ambiguities and enhances affiliation (Tiwana & Mclean (2005). This is because the cognitive limits of individual member's knowledge compels them to rely on their peer team members to help make sense, articulate and integrate such needed specialized knowledge (Grant, 1996).

Team Trust and Knowledge Management Practices

The results (Table 4, appendix 1) demonstrated a significant positive relationship between team trust and knowledge acquisition, transfer, creation and documentation. Findings are in support of earlier studies by Wick, Berman and Jones, (1999); and Dirk and Ferrin, (2001) that posited that team trust enhances working relationships, transfer and acquisition of knowledge and allocation of resources to shared goals. Improvement in interpersonal team trust enhances the levels of knowledge acquisition, transfer, creation and documentation in government aided teaching hospitals. Thus to generate, share and transfer knowledge team members must trust other members with whom they are working (Adler, 2001). Teams that accept divergent views are more likely to be more tolerant in developing collaborative relationships and a knowledge sharing culture (Hattori & Lepidus, 2004).

Knowledge Management Practices and Team Performance

The findings (Table 4, appendix 1) showing a significant positive relationship between knowledge acquisition and team performance; knowledge creation and team performance; and knowledge documentation and team performance concur with recent studies by Chen and Huang,

(2009) and Fugate, et al, (2008) that affirmed that knowledge management processes/practices had a significant positive effect on team and organisational performance. The results also support Amable, (1997), and Taggar, (2002) affirmation that knowledge and skills about one's function are critical to creativity and team performance. They also agree with Lee et, al, (2005) empirical findings on innovative process that confirmed that knowledge sharing/transfer is significantly associated with team performance; and early small group research that indicated a strong association between available group knowledge and performance (Shaw, 1981; Strasser et al., 1995).

Team Strategic Competences and Knowledge Management Practices as Predictors

The findings (Tables 5, 6, appendix 1) indicated that knowledge management practices, reflective action team learning, team absorptive capacity, team trust, shared mental models and team psychological safety predict 58% of variations in team performance. However, reflective action team learning, team trust and team absorptive capacity are the most significant and consistent predictors of variation in team performance. It can be deduced that these team strategic competences are vital determinants of team performance.

In terms of interactive effects, the results (Table 7, appendix 1) indicating a significant interactive influence of knowledge management practices with; reflective action team learning, team absorptive capacity and team trust on team performance, support earlier assertion by Spender and Grant, (1996); and Zahra and George, (2002) that the knowledge that the firm exploits, assesses and assimilates (absorptive capacity) is accumulated internally through organisational learning (reflective action learning) in a trusting climate.

Differences between Trained and Untrained Groups at Time One and Two

Findings (Tables 9, 10, 11, appendix 1) showed a significant difference between the mean scores of the trained group at time one and time two for all study variables. The results also indicated a significant difference between the mean scores of the trained and untrained groups at time two for all variables under study. The magnitude of change (effect size) was significant for all study variables suggesting that the substantial effect could be due to the training intervention. The results support Schon's (1987) reflection-in-action theory that explains how members are enabled to think about the action while doing it to challenge their cultural norms and assumptions. Thus incorporating reflective and active learning practice into team training regimes enables workers to challenge their own mental models, knowledge resources, and level of psychological safety through continuous inquiry and dialogue.

The training intervention involving iterative cycles of action, reflection, adjustment and debriefing under a psychologically safe climate opens a new mechanism for explaining the association between knowledge management practices and team performance. Specifically the active articulation and integration of tacit and explicit knowledge during reflective profiling of shared and complimentary knowledge contributed to the significant change in magnitude at time two of the trained group thus supporting Frese and Zapf, (1994) action theory.

The findings suggest that manipulative training involving reflective action team learning under a psychologically safe team climate assists in unpacking the redundant team tacit knowledge and skills. It also enhances reciprocal acquisition and transfer/sharing of knowledge laterally among team members through repeated action and reflection. In addition the process of

reflective knowledge articulation, exploitation and substitution enables the team to function synergistically in complex environments. Reflective practice thus enables the team unpack shared mental models which enhance the team's potential to continuously refresh and update tacit and explicit knowledge.

The finding also support Gibson, et al (2006) and Edmondson (1999) earlier results which demonstrated that psychological safety communication climate is an important factor in knowledge sharing and team learning as they enhance innovative performance. In addition, improvement in team psychological safety has also been associated with team trust, team familiarity, reflexivity, positive social acceptance all of which support effective knowledge transfer and application (Gruenfeld et al, 1996; Uzzi 1997; Edmondson, 1999).

Furthermore, at time one it was observed and noted that there was minimal reflection by team members on their actions or when assessing the kind of medical and surgical knowledge required to tackle shared ward tasks. However, following intervention, the team member's ability to reflect on their actions increased in consonant with improved (knowledge creation) improvisation practices. This suggests that after training intervention, ward teams discovered that there was a lot to perform in their team tasks than what they had ever shared. Furthermore active reflection assisted the team members to re-evaluate their actions on their past experiences, plan new actions and tackle future work and employment challenge.

Concluding remarks

i). Incorporating team psychological safety mentoring and shared reflective practice into the training-learning processes enables team members manage their reflective action learning fears and to indulge in appropriate knowledge articulation and management practices. Thus the process of active reflective practice, profiling of shared mental models and complimentary knowledge helps teams uncover knowledge they have been unconscious of, validate it and improvise options for enhancing team performance

ii). Team strategic competences and lateral knowledge management practices provide alternative explanations and antecedents to team performance. However, the large proportion of variance in team performance explained by team trust, reflective action team learning and team absorptive capacity point to their centrality in explaining levels of team performance. Additionally the significant interaction results confirm that teams must actively demonstrate active, reflective learning proficiency, absorptive capacity and trust at work and appreciate divergent views, ideas and practical application to bridge the gap between lateral knowledge management practices and team performance

Recommendations and implications

From the study results pointing to the convergence between knowledge management practices and team strategic competences and their predictive power over team performance, a number of recommendations and implications can be drawn:

To researchers in the area of knowledge based view of the firm, these findings open up a new horizon in knowledge conceptualization at team ontological orbital level as it reveals new antecedents to team performance in knowledge intensive organisations. At team level, the results suggest that the interface between team strategic competences and team enabled knowledge

management practices enhances team performance. However, for service sectors to sustain knowledge sharing, face to face knowledge management practices supported by team building capacity and incentives should be promoted through continuous in service training, research and publications.

Reflective action team learning, team trust and team absorptive capacity should be encouraged, developed and audited regularly as they play a compensatory role in surfacing experiences to create a new understanding in order to deliver quality services. However, in order to attain professional synergy team members must overlook autonomy and professional silos in preference for utilizing knowledge resources within the team. Indeed in the romance of team psychological safety and reflective practice, team members should encourage all specialists at different hierarchical levels, with useful expert knowledge and skills, to take an active part in reciprocal reflection as they guide the team on unique routine and nonroutine cases, for the best interest of patients.

In addition management should encourage team members to indulge in active reflection on critical incidents that appear to be unique during patient care and management. Through open discussion during ward rounds and/or round table exchange, guided by explicit learning objectives, routine and non routine cases should be critically reviewed; and ethical and technical problems that could adversely affect medical procedures anticipated and easily identified. This can be promoted by creating a psychologically safe and trusting work climate which enhances help seeking behaviour, sharing of errors, omissions and knowledge. In this way, teams can save time spent outsourcing the needed knowledge and clinical applications and instead tap it from team members. This will go a long way in reducing the increasing rates of inappropriate drug prescriptions, unnecessary investigations, wrong diagnosis and mortality rates.

Furthermore, professional team members should remember that they have a duty to contribute to reflective action learning and psychological safety. They should therefore demonstrate the capacity to dialogue, absorb, reflect, unlearn and learn from other members. In this respect management should regularly provide their workers with opportune time to reflect and dialogue as a team on present and past critical incidents and experiences on the ward in order to enrich their active memory. However, this requires continuous auditing of team strategic competences to aid translation of acquired, transferred, created and documented knowledge into team performance (health service delivery). By embracing cost-effective knowledge management practices and reciprocity, the team avoids rote performance in preference for bettering comprehension of team tasks, functions and outcomes. Thus team to team contact and interdependence in surgical and medical departments should be increased to promote dialogue and enhance team level knowledge management practices. Reflective practice and team trust should be regarded as major attributes of professional service delivery excellence as both enable staff to think and act as an integral part of a team to challenge their cultural norms and assumptions, in learning and knowledge sharing. Reflective practice, therefore, should be a significant component of professional continuous education in the service sector as it promotes theory and practice integration.

Knowledge management practices and reflective action learning should be incorporated in curriculum for medical and allied health professional courses to enable graduates adapt to changing dynamic health care climates and systems. Practitioners should be compelled to provide viable evidence of reflective practice and knowledge management proficiency as formal

competence requirement for registration and licensing. In addition they should focus on developing team strategic competence mix related to within (intra-team face to face) and without (inter-team outsourcing) micro level knowledge sharing processes to compensate for the missing relevant tacit knowledge. Furthermore, there should be regular profiling and auditing of team psychological safety climate and shared mental models (team, task and attitudinal shared mental models) to promote team synergy and quality health service delivery. However, in the teamworking aspects of knowledge management, shared team leadership should endeavor to change the level of team strategic competences through mentoring; but this requires temporal time for professional team synergy to take root.

In order to cement trust, hospital managers and ward unit team leadership should work in unison to create a team climate for informal and formal open communication and dialogue among team members. This could be achieved, for instance through orientation training of new personnel and regular meetings at unit, team and organisational level to build viable collegial relationship. In addition personnel selection and recruitment exercises should, as a matter of principal and necessity, give high regard to candidate reflective and action learning ability including their potential for teamworking and knowledge sharing.

References

- Aldler, P.S. (2001). Market, Hierarchy and Trust: The Knowledge Economy and the Future of Capitalism. *Organisation Science*, 12 (2), 215-234.
- Amable, T.M. (1997). Motivating creativity in organisations: On doing what you love and loving what you do. *California Management Review*, 40, 39-58.
- Argote, L. (1999). *Organisational learning: Creating, retaining and transferring knowledge*. Boston; Kluwer.
- ASTD. (2008). *ASTD State of the industry*. Alexandria. VA.
- Arthur, W.B. (1996). 'Increasing returns and the New World of Business.' *Harvard Business Review*, 74 (4), 100-109.
- Baden-Fuller, C., & Winter, S.G. (2005). 'Replicating Organisational Knowledge,' EBK Working paper 2005/22, Economics and Social research Council.
- Bell, S.J., Mengue, B., & Stefani, S.L. (2004), When customers disappoint; A model of relational internal marketing and customer complaints. *Journal of Academy of Marketing Science*, 32, 112-26.
- Brookfield, S.D. (1987). *Developing Critical Thinkers: Challenging Adults to Explore Alternative Ways of Thinking and Acting*. SanFrancisco: Jossey-Bass.
- Caine, R., & Caine, G. (1991). *Making connections*, 29, Menlo Park, CA: Addison. Wesley/Innovative Learning Publications.
- Chen, C.J & Haung, J.W. (2009), Strategic human resource practices and innovation performance- the mediating role of knowledge management capacity. *Journal of Business Research*, 62, 104-114.
- Cohen (1988). *Statistical power analysis for behavioural sciences*, second edition. Hillsdale NJ: Lawrence Erlbaum Associates. Publishers
- Cummings, J. (2004). Work groups, structural diversity, and knowledge sharing in a global organisation. *Management Science*, 50 (3), 352-364.
- Dansereau, F., Alutto, J., & Yammarino F. (1984). *Theory testing in organizational*

- behavior: The variant approach.* Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Davenport, T.H. (1994). 'Saving IT's Soul: Human-Centered Information Management,' *Harvard Business Review*, 119-131.
- Davenport, T.H., De Long, D.W. & Beers, M.C. (1998), 'Successful knowledge management projects', Sloan. *Management Review*, 39 (2) 43-57.
- Davenport, T. & Glaser, J. (2002), 'Just-in-Time Delivery Comes to Knowledge Management,' *Harvard Business Review* 5, 107-111.
- Davenport, T.H., & Prusak, L. (1998). *Working knowledge: How organisations manage what they know.* Harvard Business School Press, Boston.
- Dirk, K.T., & Ferrin, D.L. (2001). The role of trust in organisational settings. *Organisational Science*, 12, 450-467.
- Duan, C.J., (2013). A knowledge based view of the team. *American Journal of Business Management*.
- Edmondson, A. (1996). Learning from mistakes is easier said than done: Group and organisational influences on detection and correction of human error. *Journal of Applied Behavioural Science*, 32 (1): 5-28.
- Edmondson, A. (1999). Psychological safety and Learning behavior in work teams,' *Administrative Science Quarterly*, 44, 350-83.
- Edmondson, A. (2002). The local and variegated nature of learning in organisations: A group level perspective. *Organisation Science*, 13, 128-146.
- Edmondson, A. (2003). *Managing the risking of learning: Psychological safety in work teams.* *International handbook of Organisational teamwork.* Jossey-Bass.
- Eisenhardt, K.M., & Santos, F.M. (2002). *Knowledge Based View: A new theory of strategy.* In A. Pattigrens & H. Thomas & R. Whittington (eds). *Handbook of Strategy and Management.* Thousands Oaks: Sage Publication.
- Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. In H.C Triandis, M.D, Dunnette and L.M. Hough (Eds). *Handbook of*

Industrial and Organisational Psychology, 4 (2), 271-340.

Fry, L. W., & Slocum, J. W. (1984). Technology, structure, and workgroup effectiveness: a test of a contingency model. *Academy of Management Journal*, 27 (2), 221-246.

Fugate, B.S., Stank, T.P., & Meltzer, J.T. (2008), Linking knowledge management to operational and organisational performance. *Journal of Operations Management* in Press, Corrected proof.

Garson, G.D. (2005). *Structural Equation Modeling*. Retrieved from <http://www2.chass.ncsu.edu/garson/pa765/structur.htm>.

Gibson, C.B., Porath, C.L., Benson, G.S., & Lawler, E.E. (2007). What results when firms implement practices. The differential relationship between specific practices, firm financial performance, customer service and quantity. *Journal of Applied Psychology*, 92, 1467-1480.

Grant, R.M. (1996a). Towards a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122.

Grant, R.M., (1996b).Prospering in dynamically competitive environments; Organisational Capability as Knowledge Integration. *Organisation Science*, 7, 375-387.

Griffith, T. L., & Sawyer, J.E. (2010), Multi-level knowledge and team performance, *Journal of Organisational Behaviour*, 31, 1003-1031.

Gruenfeld, D.H., Mannex, E.A., Willams, K.Y., & Neale, M.A (1996). Group Composition and Decision Making: How member familiarity and information Distribution, Affect process and performance. *Organisation Behaviour and Human Decision Performance*, 67 (1) 1-5.

Gupta, N., Jenkins, D., Curington, W. P., Clements, C., Doty, D. H., Schweizer, T., & Teutsch, C. H. (1986). *Exploratory Investigations of Pay-for-Knowledge Systems*. Washington, D. C.

- Gupta, A.H., & Govindarajani, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21, 473-496.
- Gustafson, C., & Fagerbers, I. (2004). Reflection, the way to professional development? *Journal of Clinical Nursing*, 13, 217-280.
- Hackman, J. R. (1987). *The design of work teams*. In J. W. Lorsch (Ed.), *Handbook of Organizational Behavior*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Hackman, J. R. (1990). *Groups that work (and those that don't): Creating conditions for effective teamwork*. San Francisco, CA: Jossey-Bass Publishers.
- Hackman, J.R. (2002). *Leading teams. Setting the stage for great performance*, Harvard Business School Press, Boston, M.A.
- Hakanson, L. (2007). Creating knowledge. The power and logic of articulation, *Industrial and Corporate Change*, 16, 51-88.
- Hakanson, L. (2010). The firm as an epistemic community: The knowledge based view revisited. [lh.int@cbs,dl](mailto:lh.int@cbs.dl).
- HSSP. (2005). *Health Sector Strategic Plan, Uganda*.
- Kohn, L., Corrigan, J., & Donaldson, M. (1999), *To Err is human; Building a safer health system*, Committee on Quality of health Care in America. Institute of Medicine, Washington, D.C; National Academy Press, 1999.
- Kogut, B., & Zander, U. (1992), "Knowledge of the firm, combinative capabilities and the replication of technology", *Organizational Science*, 3 (3) 383-97.
- Kogut, B., & Zander, U. (1993). 'Knowledge of the firm and the evolutionary theory of the Multinational Corporation,' *Journal of International Business Studies*, 24, 625-45.
- Kozlowski, S. W. J., Toney, R. J., Mullins, M. E., Weissbein, D. A., Brown, K. G., & Bell, B. S. (2000). *Developing adaptability: A theory for the design of Integrated embedded training systems*. In E. Salas (Ed.), *Human/Technology Interaction in Complex System*, 10, Greenwich CT: JAI Press.

- Kozlowski, S.W.J., & Ilgen, D.R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in Public Interest*, 7, 77-124.
- Kraiger, K., & Wenzel, L. H. (1997). *Conceptual development and empirical evaluation of measures of shared mental models as indicators of team effectiveness*. In Brannick, M. T., Salas, E., & Prince, E. (Eds.), *Team Performance Assessment and Measurement*. Mahwah, NJ: Lawrence Earlbaum Associates.
- Lane, P.J, Salk, J.E., & Lyles, M.A. (2001). Absorptive Capacity, Learning and Performance in International Joint Ventures. *Strategic Management Journal*, 22, 1139-61.
- Lee, M., Johnson, T.E., O'Connor, D., Khalil, M.K, Lee, Y. & Huang, S. (2005). *The Effects of a Shared Mental Model on Team Performance*, Paper presented at the Annual Meeting of Association for Educational Communications and Technology, Orlando, Florida.
- Leonard-Barton, D. (1995). *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*, Boston, M.A, Harvard Business School Press.
- Levine, J.M., & Moreland, R.L. (1990). Progress in small group research. *Annual Review of Psychology*, 41, 585-634.
- Lyles, M.A., & Salk, J.E. (1996). Knowledge acquisition from foreign parents in international joint ventures: an empirical examination in Hungarian context: *Journal of International Business Studies*, 29 (2), 154-174.
- Malhotra.(2000). *From information management to knowledge management*. Beyond the Hi-Tech Hide bound systems. In Srikantioiah & Koenig, (Eds). *Knowledge management for information professional*, Medford,N.J; Information.
- Mukherjee, A., & Malhotra, N. (2006). Does role clarity explain employee perceived service quality? A study of Antecedents and Consquences in Call Studies, *International Journal of Services Industry Management*, 17 (5), 444-73.
- Nadler, D.A & Shaw, R.B (1995). *Change leadership. Core competency for the 21*

- century, in Nadler, D.A, Shaw, R.B and Walton, A.E (Eds). *Discontinuous change: Leading organisation transformation*, Jossey-Bass, San Francisco, CA.
- Nonaka, I. (1994), ‘‘A dynamic theory of organizational knowledge creation’’, *Organization Science*, 5 (1), 14-37.
- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, New York, NY.
- Nunnally, J.C & Berstein, I.H., (1994). *Psychometric theory*, 3rd ed, New York: McGraw-Hill.
- Pearce, J. A. & Ravlin, E. C. (1987). The design and activation of self-regulating work groups. *Human Relations*, 40 (11), 751-782.
- Rico, R., de la Hera, C.M.A., & Taberero, C. (2011). Work team effectiveness; A review of research from last decade (1999-2009). *Psychology in Spain*, 15 (1), 57-59.
- Salas, E., Stagl, K.C., & Burke, C.S, (2004). ‘25 years of team effectiveness in Robertson, L.T. *International Review of Industrial and Organisational Psychology*. 19.
- Salas, E., Sims, A.E., & Burke, C.S. (2005). Is there a ‘Big five’ in Teamwork? *Small Group Research*, 36 (5), 555-599.
- Sanchez, R. (2001). *Managing knowledge into competence: The five learning cycles of the competent organisation*. In R. Sanchez (eds) knowledge management and organisation competence, 3-38. Oxford.UK, Oxford. University Press.
- Sapsed, J., Bessant, J., Partington, D., Tranfield, D., & Young, M.(2002). Teamworking and Knowledge Management; A review of converging themes. *International Journal of Management Review*, 4 (1),71-86.
- Schon, A.D. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Shaw, M.E. (1981). *Group Dynamics: The Psychology of Small Groups Behaviour*. New York McGraw-Hill.

- Senge, P. (1992). *The fifth discipline: The art of practice of the Learning Organisation*, Doudleday, New York, NY.
- Sims, D.E., Salas, E., & Burke, C.S. (2005). *Promoting effective team performance through training*. In S.A, Wheelan (Ed). *The handbook of group research and practice*, pp 407-425).
- Spender, J.C & Grant, R.M (1996). Knowledge and the firm: Overview; *Strategic Management Journal*, 17, 5-9
- Szulanski, G. (1996). Exploring Internal Stickiness: Impediments to the transfer of Best Practices within the firm. *Strategic Management Journal*, 17, 27-43.
- Taggar, S. (2002). Individual Creativity and Group Ability to Utilize Individual Creative Resources: A multi-level model. *Academy of Management Journal*, 40, 315- 330.
- Tiwana, A. & Mclean, E.R. (2005). ‘‘Expertise integration and creativity in information systems development’’, *Journal of Management Information Systems*, 22, (1), 13-43. *Transactions on Systems, Man, and Cybernetics*, 22 (6), 1296.
- Uzzi, B. (1997). Social Structure and Competition in Interfirm Networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42 (1), 35-67.
- Wicks, A., Berman, S., & Jones, T. (1999). The Structure of Optimal Trust: Moral and Strategic Implications. *Academy of Management Review*, 24, 99-116.
- WHO. (2004). *World Health Organisation; Population and Health indicators Survey*.
- Wutchy, S., Jones, B.F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, 316, 1036-1039
- Zahra, S., & George, G. (2002). Absorptive capacity: A review, reconceptualisation and extension. *Academy of Management Review*, 27 (2), 185-203.
- Zellmer-Bruhn, M., & Gibson, C. (2006). Multinational organisational context: Implications for team learning and performance. *The Academy of Management Journal*, 49 (3), 501-518.

Zhuge, H. (2002). Clustering soft-ware devices in semantic grid. *IEEE. Computer Science Engineering, 4 (6), 60-62.*

Appendix 1

Table 4: Correlations (with knowledge management practices –Desegregated)

		1	2	3	4	5	6	7	8	9	10	11	12	
1	Shared mental model	r P	1 .											
2	Team performance	r P	.52** .00	1 .										
3	Team trust	r P	.57** .00	.52** .00	1 .									
4	Knowledge management	r P	.06 .50	.09 .29	.01 .89	1 .								
5	Reflective action team learning	r P	.28* .00	.44** .00	.41** .00	.01 .94	1 .							
6	Team absorptive capacity	r P	.63** .00	.50** .00	.57** .00	.12 .17	.14 .12	1 .						
7	Team psychological safety	r p	.63** .00	.50** .00	.57** .00	.09 .32	.26 .00	.60** .00	1 .					
8	Knowledge acquisition	r p	.58** .00	.48** .00	.48** .00	.51** .32	.01 .37	.66** .00	.47** .00	1 .				
9	Knowledge documentation	r p	.49** .00	.44** .00	.49** .00	.40** .00	.11 .22	.57** .00	.33** .00	.68** .00	1 .			
10	Knowledge transfer	r p	.22** .01	.07 .46	.25** .01	.58** .00	.07 .45	.22** .01	.39** .00	.20** .02	.28** .00	1 .		
11	Knowledge creation	r p	.36** .00	.40** .00	.40** .00	.47** .00	.29** .00	.26** .00	.47** .00	.36** .00	.27** .00	.57** .00	1 .	
12	Knowledge application	r p	.06 .47	.11 .20	.14 .10	.42** .00	.07 .45	.06 .46	.07 .46	.42 .00	.12 .17	.27** .00	.47 .00	1 .

Table 5: Linear regression analysis of variables that contribute to team performance

Model	Unstandardised	Standardized			
	Coefficients	Coefficients	beta	t	Sig
	B	Standard Error	β		
(constant)	8.84	5.10		1.73	.02
Team trust	.24	.09	.38	2.60	.01
Knowledge management practices	.03	.03	.04	1.19	.24
Share mental models	.06	.06	.23	.97	.33
Reflective action team learning	.12	.03	.18	3.76	.00
Team psychological safety	.13	.08	.04	.34	.74
Team absorptive capacity	.43	.17	.31	2.54	.01

Dependent variable: team performance, $F = 163.92$; adjusted $R^2 = .58$; $p < .05$

Table 6: Hierarchical multiple regression for all predictors of team performance

	Model1	Model2	Model 3	Model 4	Model 5	Model 6	Model7
	β	β	β	β	β	β	β
Constant (B)	27.50	33.96	50.27	22.39	10.28	11.17	7.63
Team size	.20*	.21	.14*	.02	.02	.02	.04
Knowledge management practices		.11	.11*	.12*	.07	.06	.04
Reflective action team learning			.41*	.27*	.18*	.18*	.17*
Team trust				.60*	.49*	.47*	.34*
Team absorptive capacity					.40*	.38*	.29*
Team psychological safety						.03	.06
Shared mental model							.31
R ²	.04	.05	.22	.57	.59	.59	.59
Adjusted R ²	.03	.04	.20	.57	.58	.58	.58
F	5.43	3.51	11.86	209.97	197.3	163.36	140.84
ΔR^2	.04	.01	.17	.35	.02	.00	.00
Sig. F change	.02	.21	.00	.00	.00	.71	.22
VIF	1.00	1.00	1.03	1.03	1.77	2.10	2.14

Dependent variable: Team performance; $p < .05$

Table 9: Paired samples t-test for comparison of trained group means at time 1 and 2

	Time 1	Time 2	<i>t</i>	<i>p</i>	<i>Effect size</i>
	M (SD)	M (SD)			
Knowledge Management practices	3.50 (.35)	3.95(.36)	.77	.04	.07
Team trust	3.15 (.69)	3.36 (.65)	.24	.81	.02
Shared mental models	3.00 (.46)	3.07 (.45)	.31	.03	.03
Team Absorptive capacity	3.46 (.47)	3.74 (.46)	.18	.00	.02
Reflective action team learning	3.64 (.66)	3.76 (.64)	.47	.04	.04
Team psychological safety	3.17 (.77)	3.38 (.74)	.33	.00	.03
Team Performance	3.21 (.55)	3.40 (.41)	8.5	.00	.72

$p < .05$

Table 10: Paired samples t-test for comparison of untrained group means at time 1 and 2

	Time 1	Time 2	<i>effect</i>		
	M (SD)	M (SD)	<i>t</i>	<i>P</i>	<i>size</i>
Knowledge management practices	3.52 (.59)	3.54 (.57)	.23	.82	.02
Team trust	2.00 (.26)	2.01 (.25)	.06	.95	.01
Shared mental models	2.37 (.59)	2.39 (.50)	.13	.88	.01
Team absorptive Capacity	3.07 (.41)	3.08 (.40)	.06	.95	.01
Reflective action team learning	3.57 (.94)	3.57 (.93)	.03	.98	ns
Team psychological safety	2.12 (.92)	2.13 (.91)	.03	.97	ns
Team performance	2.55 (.80)	2.57 (.78)	.16	.87	.01

$p < .05$

Table 11: Independent samples t-group test for comparison of trained and untrained groups at time two

	Trained	Untrained	<i>t</i>	<i>p</i>	<i>effect size</i>
	M (SD)	M (SD)			
Knowledge management practices	3.95 (.36)	3.54 (.57)	.70	.04	.06
Team trust	3.36 (.65)	2.01 (.25)	7.87	<.01	.57
Shared mental model	3.07 (.45)	2.39 (.50)	19.30	<.01	.86
Team Absorptive capacity	3.74 (.46)	3.08 (.40)	8.82	<.01	.61
Reflective action team learning	3.76 (.64)	3.57 (.93)	1.37	.02	.12
Team Psychological safety	3.38 (.74)	2.12 (.91)	8.71	<.01	.61
Team performance	3.40 (.41)	2.57 (.78)	2.16	.03	.19

$p < .05$

Table 12: Comparison of time two mean scores of trained, first untrained and second comparison group.

	Trained	1st Untrained	2 nd Untrained	F	p
	M (SD)	M (SD)	M (SD)		
Knowledge management	3.95 (.36)	3.54 (.57)	3.78(.37)	5.09	< .01
Team trust	3.36 (.65)	2.01 (.25)	3.13 (.83)	18.09	< .01
Shared Mental Model	3.07 (.45)	2.39 (.50)	2.19 (.42)	85.45	< .01
Team Absorptive Capacity	3.74 (.46)	3.08 (.40)	3.25 (.50)	35.26	< .01
Team Psychological Safety	3.38 (.74)	2.12 (.91)	2.55 (.25)	72.16	< .01
Reflective Action Learning	3.76 (.64)	3.57(.93)	3.51 (.89)	80.40	< .01
Team Performance	3.40 (.41)	2.57 (.78)	3.23 (.51)	25.56	< .01

Note: p < .01

Conceptual Framework

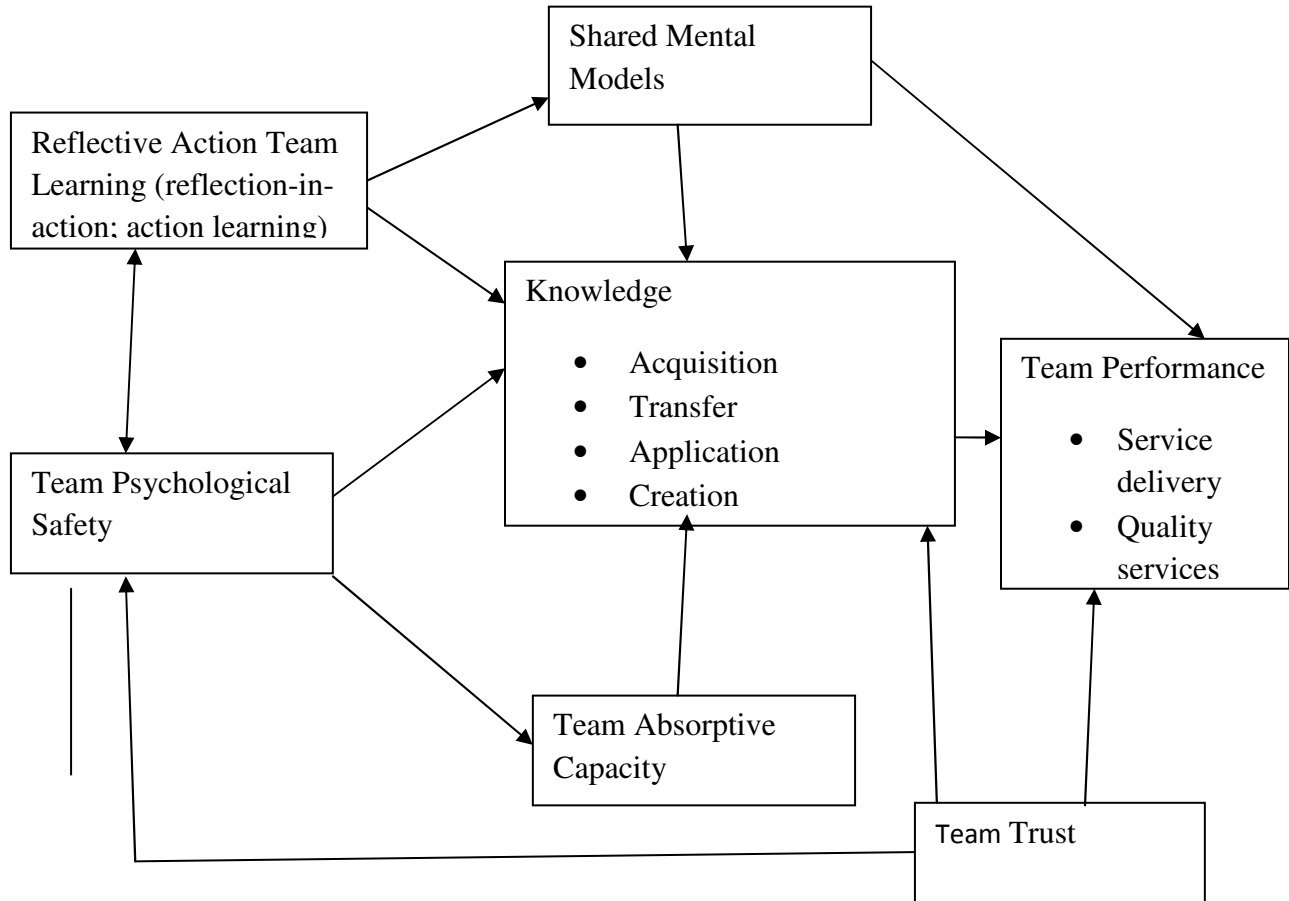


Fig. 1: Conceptual framework showing interrelationships between team strategic competencies, knowledge management practices and team performance.