Evaluating the contributions of the different knowledge management components towards organizational performances

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Abstract: This paper looks at examining the extent to which organizations in Oman incorporate the different key knowledge management components namely Knowledge Creation, Knowledge Application & Dissemination, and knowledge capture & sharing within their daily operations with respect to achieving performance improvement. It also examines how well the individual knowledge management component can explain the variation in operational performances and their respective impact on operational performances. Quantitative empirical approach is used with Microsoft Excel data analysis tool pack as the investigative tool to perform descriptive statistical analysis, analyze the relationship between the knowledge management components and operational performance, and to develop a regression model for explaining the associated operational performance.

The findings confirmed that organizations perceive a positive association between the knowledge management components and operational performances. However, the developed regression model was deemed statistically reliable through the use of only two out of the three key knowledge management components namely knowledge application & dissemination, and knowledge capture & sharing, and so could only partly support such perception. Anyhow, knowledge application & dissemination, and knowledge capture & sharing proved to be reliable and effective explanatory variables for explain the variation in operational performances. The findings also indicated that knowledge application & dissemination is the most impactiful knowledge management component with respect to operational performances.

Keywords: Knowledge Management, Knowledge Management Components, and Operational Performance
1. INTRODUCTION

Knowledge-intensive activities within organizations are increasingly knowledge-based [1]. The accelerated rate of technological developments are driving innovations while simultaneously shortening their lifespans. This illustrates the need for continuous learning by organizations to ensure relevance of their current knowledge and sustainable competitiveness [2].

Knowledge is the currency of today’s economy and the crux of knowledge management which is increasingly viewed as the lifeline of modern-day organizations [3]. Since the emergence of knowledge management in the 1990s, its contributions towards superior performance and sustainable competitiveness in organizations has been remarkable [4]. But with the continuous inclination of the current economy towards a knowledge-based economy, knowledge has become an essential organizational asset and knowledge management is becoming the tool and practice for sustaining organizational competitiveness continuous improvement, and innovativeness [5]. Therefore, the roles of knowledge and knowledge management should be on the priority list of all modern-day organizations. Clear paths should be devised for the knowledge management implementation aiming at enhancing organizational operations, processes and services/products otherwise any existing competitive edge may quickly disappear [6].

This paper examines the extent to which organizations from a range of industries in Oman incorporate the concept of knowledge management practices within their daily operations. This paper also presents a regression model that explains the relationship between the knowledge management components and operational performance, and the impact of each of the knowledge management component on the operational performance. Additionally, this paper highlights key knowledge management related activities that organizations of Oman should be focusing on to improve their operational performance.

2. LITERATURE REVIEW

A. Knowledge and Knowledge Management

Knowledge and knowledge management are recognized as strategic assets and tactical management approach to organizations. They are viewed as essentials and foremost source of comparative advantage. They are key to maintaining sustainable organizational competitiveness and to driving organizational performance upon right implementation [7]. The knowledge-based driven economy that organizations are currently operating within, justifies their importance. Within such economy, technical and scientific progression may well be accelerated and so is becoming obsolete, thus reducing knowledge resources value span. Moreover, there is the possible loss of valuable organizational knowledge assets due to high employee turnover while facing increasingly demanding customers, and the increasing needs to be more responsive due to markets complexity and instability from globalization [8]. Such can hinder continued organizational performance, growth and progress which is the ultimate goal of any organization regardless of size so to ensure return on investments for shareholders [9]. The importance of organizational responsiveness to offering of new products and services are echoed in other research but cautiously highlight the possible challenge without having the appropriate knowledge [10]. Therefore, the continuous capturing and managing of knowledge are vital as they ensure organizational knowledge assets are always up-to-date, advantageously positioning organizations to be proactive in their decision making irrespective of the situation. At present, the ways to optimize the potentials of knowledge management to achieve higher performance varies between organizations and so is the level of success.

The importance of knowledge and knowledge management are well supported by the knowledge-based theory which infers knowledge to be a set of rare, valuable and inimitable resources that can enable organizational competitiveness, high achievement, and sustainable superior performance. It views the knowledge as the foundation for organizational success as it serves as essential resources for organizational development and growth, and key source for increasing information and adding values to the organizations. Its basic principles relate to knowledge transferability, capacity of aggregation, specialization in knowledge acquisition, and knowledge requirement of production and services [11].

Growth and progress are undoubtedly key organizational goals for ensuring the return on investment and they are achievable through high quality organizational performance. Knowledge management has increasingly been recognized as an influential concept and practice with positive impact for such organizational performance [12].
With respect to organizational performance, its positive contributions outweigh its negatives regardless of organization size [13]. However, the concept awareness must exist across all organizational level, from operational level to strategic level for the buy-in within operational activities and strategy-incorporated by strategic decision-makers. This can ensure appropriate support from senior managers, so that realistic time, effort, investments, and motivations may be allocated [14].

The knowledge management concept and practice may be adapted according to organizational needs and they are sure to assist organizations in developing richer customer relationship, understanding and their needs together with market trends. As a result, more customized services and products can be offered to customers improving both employee and customer satisfaction and loyalty [15]. Additionally, this concept and practice promote interactive communications that facilitates customers-employees interactions, intra-organizations (junior staff and senior staff) interactions, and inter-organizations communications. This brings people together and develop positive social associations which is in line with the kind of relationships organizations may want to develop with all their stakeholders [16].

B. The Nature of the Economy: The Knowledge-Based Economy

Survival in this knowledge-based economy is dependent on having appropriate knowledge resources that provide the capabilities to be responsive to business environmental changes [17, 18, 19, 20]. And so it explains the importance of knowledge management with regards to organizational performance enhancement [21, 22, 23]. This is supported by the Resource-Based View (RBV) and Knowledge-Based View (KBV) theories which suggest that organizational existence, steadiness, success and development are closely related to knowledge resources. [24], [18], [19], [22], [25].

The argument that we are experiencing an accelerated rate of innovation but with shorter lifespan illustrates the increasing dynamism of business environments and how quickly knowledge resources can turn from relevant to irrelevant [1]. This is supported by Becerra-Fernandez and Sabherwal who suggested that the market is becoming increasing complex, more and more instable, customers expect faster responses to their needs, and organizations are struggling to maintain highly qualified and experienced employees. [26].

The competitive nature of marketplaces resulting from these driving forces are forcing organizations to respond with measures such as workforce streamlining thus jeopardizing organizations’ intellectual capital. This creates the need to replace tacit (informal) by explicit (formal) knowledge to avoid the loss of significant valuable business knowledge given the organizational knowledge is mostly informal [27].

This further strengthen the arguments for effective management of valuable business as it can also be used to quickly prepare new recruits to replace the frequently outgoing experienced and knowledgeable employees. As a result, knowledge gaps are minimized while performance quality is maintained. [28].

C. Relationship of Knowledge Management with Knowledge-Based Economy

Knowledge-based explains very well the nature of profitable activities being undertaken in this ongoing economy. Without effective management of business knowledge, knowledge-based activities will be difficult and so organizations will struggle to compete [29]. Knowledge-based products and services are on the rise while tacit knowledge is becoming more difficult to keep due accelerating employee mobility. This again justifies the need for knowledge management by organizations in order for any chance to compete. [30].

Knowledge is viewed as essential organizational asset of organizations for survival and competitiveness [31]. It provides the capabilities to be responsive and proactive thus the competitive advantages to any size organizations. So knowledge management is becoming a must [13].

Knowledge management is simply making the most out of available knowledge resources, be it, tacit or explicit [32]. In other words, ensuring knowledge resource availability wherever and whenever needed within organizations for outcome enhancement [2]. In the process, innovative collaboration is promoted, thus enhancing individual and collective productivity, improving problem-solving skills, and providing strategic directions. [30].

Furthermore, it makes knowledge resources more visible thus facilitating the development of value-added services or products, and assisting in identifying potential business prospects [33][34]. Moreover, process efficiency will improve and strengthening of relationships, reputation and loyalty, be it, with partners or customers through superior knowledge sharing. [35]. These collaborative engagement among employees and customers can give rise to organizational learning culture and so can improve performance quality across all levels of organizations. [31].

It is difficult to separate the advantageous trend of knowledge-based/ intensive nature of activities that forms the current economy (knowledge-based economy) from the naturally fitting knowledge management practices. And so similarly for sustainable competitive edge and knowledge management [36]. Therefore, knowledge management is key for effective planning and development. It is also important to emphasize the role of the people, the operational processes and the technologies in the whole process. This ensures the continuous transformation
between the different types of knowledge required by the organizations for improvement [2].

D. Strategies to manage valuable business knowledge

Knowledge management life cycle serves as effective strategy to manage valuable knowledge resources and so it may be used as a good guide for implementing knowledge management within organizations efficiently [37]. A number of related models exist but in this study, the model presented in the figure below is used.

![Figure 1: KM life Cycle (SAGSAN 2006)](http://journals.uob.edu.bh)

The knowledge creating stage focuses on creating innovative solutions for enhancing business processes within organizations with both tacit and explicit knowledge being the key sources. [25]. Explicit knowledge is normally in documented forms stored within the organization’s technology infrastructure while tacit is the learning and understanding within people’s mind [38] [39]. Organizational knowledge-based systems development are also an end product of this stage for storing both the internally created knowledge and knowledge captured from other sources.

The knowledge sharing stage focuses on making available the stored codified knowledge. The knowledge is made available to whomever needs it when developing new solutions or solving previously encountered problems. Knowledge sharing is key to organizational success and growth and so the greater the knowledge sharing, the more efficient organizations will be at providing solutions [40].

The knowledge structuring stage focuses on identifying relevant and valuable knowledge, capture, organize and store them. The usual knowledge capturing techniques are used and the captured knowledge are converted into interpretable and usable forms for everyday use. [41][40].

The knowledge using stage focuses on applying the created knowledge and gauging the success. Successfully applied knowledge would be disseminated across the organization to be integrated within processes, services or products. Otherwise the knowledge would undergo reviewing and refining for another application trial.

The knowledge auditing stage focuses on auditing knowledge assets and measuring intellectual capital. With the ever changing business environment, yesterday’s valuable business knowledge can quickly become insufficient or irrelevant. Knowledge audit is the exercise that keeps a close monitoring of that. Any knowledge gap that may rise can be identified and resolved [42].

E. Knowledge management implementation challenges

Despite the strong and much needed push for knowledge management implementations within modern-day organizations, the implementation process has not always been a straight forward case. A number of implementation issues have surfaced over the years including the lack of expert human resources, department teams’ unwillingness to deal with complex systems, and the lack of connectivity and communication in between departmental systems [43]. Such can support virtual meeting as individual meetings are time consuming and prone to process delays, and can improve inter-departmental decision-making process significantly. Other implementation issues includes the lack of documentation business processes within departments and the lack of knowledge in some specializations areas within departments. Probably, the worse implementation issue of all is the lack of knowledge management concept awareness within many organizations especially the SMEs [5]. All these implementation issues can easily pile up and cause significant inconsistency in decision-making quality of organizations.

F. Operational and Organizational Performance

Organization is grouping people together to achieve specific goals by undertaking carefully crafted activities [44]. Common understanding of the goals with associated learning and development are crucial for smooth undertaking of the activities and achieving those goals [45]. It can be noted that the concept and practice of knowledge management discussed embraced the effective operations of organizational described very well thus justifying the excitement of knowledge management implementations.

Organizational performance can be a measure of how well organizations perform the various activities that are needed to realize their organizational objectives. The level of success relates to the efficacy of the processes used while undertaking those activities and the ability of organizational decision makers to refine them [46]. Availability of appropriate organizational knowledge defines the quality of decisions that can be taken for refining of the processes and so the combination of organizational knowledge resources and organizational objectives can be considered to explain organizational performance [47]. Knowledge management practices can be very good source for such knowledge.

Furthermore, it has been suggested that knowledge-based resources positively relate to organizational
performance as they create opportunity discovery and exploitation. Their value, scarcity and inimitable nature provide organizations with the potential to attain superior performance and facilitate sustainable differentiation [48]. Organizational abilities to transform knowledge resources into value-creating strategies pave the way for better innovativeness, pro-activeness and confidence to take well calculated risks, which can in turn result in further positive impact on organizational performance [49].

Additionally, entrepreneurial orientation which is very knowledge-based in this current knowledge economy, topped by innovation and pro-activeness, has been suggested to be quite influential to organizational performance. They stimulate novel ideas with regards to products and services, and facilitate the identifying of emerging markets and opportunities leading to higher performance [50].

Based on literature, we should be able to confidently state that knowledge management is an essential part of management practices which can facilitate innovation and sustainable competitiveness, the key to superior organizational performance. Product leadership, customer intimacy and operational excellence are all viewed as strategic performance capabilities forming the basis for product or service innovation, customer understanding, satisfaction and retention, and efficient internal operations respectively [51]. They all relate to the creation of competitive advantage and so effective knowledge management practices should equip organizations to enhance all these components thus the strategic performance capabilities [52].

3. RESEARCH METHODOLOGY

This study intends to use survey method, which is important and suitable for quantitative research design [53]. As stated by Zikmund, survey method is more functional while developing and exploring an idea and finding justifications of specific accomplishment. Thus, based on the past literature, it is agreed that survey methodology would be more suitable for the current research [54].

As stated by Johnson, in the target population, it is better to take note of heterogeneity for better sampling, research variable and statistical tool for data analysis [55]. A sample size is calculated based on the above consideration and calculation formula suggested by Krejcie & Morgan. Several tech-oriented companies located at Knowledge Oasis Muscat were segregated/stratified on the basis of “number of employees”. This study has used “random sampling” technique to select the sample. Random sampling is easy, simple and less expensive to collect data [56] [57].

Furthermore, meta-analysis was used where statistical functionalities were applied on the responses so to get an overall index for the each question and component. Such analysis facilitate measuring, assimilating and examining of empirical study findings with regards to a certain topic [58].

4. DATA ANALYSIS

A. The measuring instrument

In this study, a range of industries were targeted including the banking industry, the educational sector, the petroleum industry, the telecom industry, the car sales industry, the airline industry and the IT development sector. The questionnaire used was adapted [59] to reflect the focus of this study with a scale of 1 to 5, where rating 1 represents ‘Strongly Disagree’, 2 represents ‘Disagree’, 3 represents ‘Neutral’, 4 represents ‘Agree’, and 5 represents ‘Strongly Agree’. The questionnaire consisted of two parts, the first part focusing on knowledge management and its impact on organizational performance, and the second part focusing on business intelligence and its impact on organizational performance. For the purpose of this paper, only the first part is being considered. 250 questionnaires were distributed across those industries and 129 that were completely filled were used for the data analysis. The others were either not returned, or incorrectly, or partially completed and so were excluded from the data analysis.

The questions relating to knowledge management were grouped to represent key components of knowledge management namely Knowledge Creation (Use of internal and external expertise for organizational knowledge creation), Knowledge Application & Dissemination (integration of acquired knowledge within systems and processes), knowledge capture and sharing culture (identify, elicit and capture knowledge from knowledge workers and making available to others), and Operational Performance (support individual, group, organization and society in a very competitive manner).

B. Knowledge Creation Component

An average rating of 3.83 could be observed for knowledge creation which means that there is an agreement across the industries that most of the knowledge created resulted from working with both internal and external experts though external experts tends to be slightly favored with an average rating of 3.88 compared to 3.78 for internal experts. 69% of the organizations confirmed that they undertake knowledge creation. The figures below show the rating distributions and the organizations’ distributions with respect to knowledge creation.

Figure 1: Knowledge creation – rating distributions
C. Knowledge Application & Dissemination Component

In terms of knowledge application and dissemination, an average rating of 3.92 could be observed meaning that organizations make fairly good use of acquired knowledge when developing new processes, services or products. The same is applicable when it comes to properly storing those acquired knowledge and making them available to employees while undertaking their daily duties. 76% of the organizations confirmed that they apply acquired knowledge and disseminate them for organization-wide use. The figures below show the rating distributions and the organizations’ distributions with respect to knowledge application and dissemination.

D. Knowledge Capturing & Sharing Component

An average rating of 3.95 could be observed for knowledge capture and sharing culture. This means that organizations encourage such culture by giving employees the opportunities to exchange ideas among themselves and with external experts for operational enhancements, and to identify, elicit and capture relevant knowledge from internal experts to minimize knowledge loss in instances of employees’ departure from the organization. 78% of the organizations confirmed that they are engaged in promoting knowledge capturing and sharing culture. The figures below show the rating distributions and the organizations’ distributions with respect to knowledge capturing and sharing culture.
E. Operational Performances

The positively inclined rating of knowledge creation, its application & dissemination, and its capture and sharing within the organizations, an average rating of 4.01 could be observed for the associated view on operational performance. This implies that organizations see knowledge management practice as a contributing element towards performance improvement. It also assist in improving support towards employees, organizations and communities. Furthermore, it was noted that when organizations manage their knowledge in an active and strategic manner, they became more competitive and perform better. 81% of the organizations confirmed that they see an improvement in their operational performances when they engaged in the knowledge management practices/components discussed above. The figures below show the rating distributions and the organizations’ distributions with respect to operational performances relating to knowledge management practices.

As it may be noted, all of the average ratings were around 4 which means that there was an agreement of engagement towards and implementation of each of the knowledge management component within the organizations but not very strong agreements though. The same kind of argument could be used for the way organizations view effective knowledge management practices towards operational support and competitiveness. This is in line with arguments that knowledge management practices positively impact operational performances of organizations.

F. Regression Analysis

To further investigate the impact of knowledge management practices on operational performances of organizations, data analysis tool from Microsoft Excel was used to develop a regression model for the set of data so to scientifically explain whether or not a correlation exist between the knowledge management practices and operational performances, and if it is the case, the kind of correlation that exist. ANOVA was used to verify whether or not the data sets being used were statistically significant meaning giving reliable results, and the correlation coefficients were used to explore the impact of individual knowledge management components. The tables below shows the results from the regression analysis.

<table>
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<th>Table 1: Regression Statistics</th>
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<th></th>
<th>Regression Statistics</th>
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<tbody>
<tr>
<td>Multiple R</td>
<td>0.870537646</td>
</tr>
<tr>
<td>R Square</td>
<td>0.757835793</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.751976982</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.363699275</td>
</tr>
<tr>
<td>Observations</td>
<td>128</td>
</tr>
</tbody>
</table>

Based on the Regression Statistics, the Multiple R value of 0.871 indicates that there is a strong correlation between knowledge management practices and operational performances. Since multiple independent variables were being considered, the Adjusted R Square was used. The value 0.752 indicates that the regression line “fits” the data fairly well meaning that 75.2% of the variation in
operational performances could be explained by the knowledge management practices.

Table 2: Analysis of Variance

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>df</th>
<th>F</th>
<th>Significance F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>129.3497495</td>
<td>5.0929E-38</td>
</tr>
<tr>
<td>Residual</td>
<td>124</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

‘Significance F’ indicates the reliability of the model where the smaller the value means the less likely a model will be wrong. As the ‘Significance F’ value is very small (from table above), it indicates that the model developed is good and therefore, it can be confidently argued that the model is statistically significant and it provides reliable results.

Table 3: Analysis of Coefficients

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Coefficients</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.598749201</td>
<td>0.001889455</td>
</tr>
<tr>
<td>Knowledge Creation</td>
<td>0.016206191</td>
<td>0.799639045</td>
</tr>
<tr>
<td>Knowledge Application &amp; Dissemination</td>
<td>0.622147383</td>
<td>3.82083E-11</td>
</tr>
<tr>
<td>Knowledge Capture &amp; Sharing</td>
<td>0.230762948</td>
<td>0.006332486</td>
</tr>
</tbody>
</table>

‘P-value’ has a similar role to ‘Significance F’ except that it indicate the reliability of the individual component of the model rather than the model as a whole. It could be noted that the ‘P-values’ were very small for all the knowledge management components except for that of knowledge creation. This meant that knowledge creation was not a reliable knowledge management component to be used as part of the model for explaining operational performance. Therefore, the model had to be re-created without the knowledge creation component. Below is the re-created model.

Table 4: Regression Statistics – model review

<table>
<thead>
<tr>
<th>Regression Statistics</th>
<th>Multiple R</th>
<th>0.870465071</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Square</td>
<td>0.757709441</td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.753832792</td>
<td></td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.362336047</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>128</td>
<td></td>
</tr>
</tbody>
</table>

The Multiple R value remains at 0.871 maintaining the strong correlation between knowledge management practices and operational performances. The Adjusted R Square value has slightly increased from 0.752 to 0.754, again maintaining the fairly well “fitted” regression line with 75.4% of the variation in operational performances being explained by the knowledge management practices. The ‘Significance F’ value is still very small indicating a good model that is statistically significant and could provide reliable results. The ‘P-values’ are now very small for all the knowledge management components and so are all reliable knowledge management component to be used as part of the model for explaining operational performance.

The coefficients show that if organizations do not engage in knowledge application & dissemination and knowledge capturing & sharing, operational performance would be rated at 0.5867 (intercept) which is very low. But when engaged in knowledge application & dissemination, the operational performance will have an increase of 0.6335 in its rating for every unit increase in the rating of knowledge management practices. Additionally, engaging in knowledge capturing & sharing will see an increase of 0.2382 in the rating of operational performance for every unit increase in the rating of knowledge capturing & sharing.

Furthermore, the coefficients show that knowledge application & dissemination is nearly three times as impactful compared to knowledge capturing & sharing on the operational performances, and so organizations may want to consider emphasizing more on knowledge application & dissemination. The current status quo rates both knowledge application & dissemination and knowledge capturing & sharing fairly the same in terms of organizational engagement at 3.92 and 3.95 respectively.

To optimize operational performances, organizations have to ensure that acquired knowledge are effectively used during the development of new processes, services or products, and the same is properly stored and made available to employees for everyday use. Organizations have to also actively engage in identifying, eliciting and capturing relevant knowledge from internal experts to build healthy and up-to-date organizational knowledge memory to preserve existing knowledge and minimize knowledge loss due to employees’ turnover. Additionally, organizations have to encourage a knowledge sharing culture where employees voluntarily engage in exchanging...
ideas among themselves and with external experts for operational enhancements.

5. **Recommendations**

Given that Knowledge application & dissemination was the most impactful, organizations should be allocating the necessary time and efforts for its achievement. Organizations should ensure that good use is made of acquired knowledge when developing new processes, services or products, and acquired knowledge is properly stored and made available to employees across the organizations for use during their daily duties.

Even if knowledge capturing & sharing was not as impactful, it still contributed significantly. So organizations should actively engage in identifying, eliciting and capturing of relevant knowledge from internal experts to maintain healthy and up-to-date organizational knowledge memory to preserve created knowledge and minimize knowledge loss due to employees’ turnover. Also, organizations should encourage a knowledge sharing culture where employees voluntarily engage in exchanging ideas among themselves and with external experts for operational enhancements.

Though in this study, knowledge creation could not be used as a reliable explanatory variable for operational performances in the regression model, still the descriptive statistical analysis shows a large number of organizations perceived it as important and actively engaged in its related activities. This is a positive finding as the importance of knowledge creation is well supported by literature and viewed as a crucial component of the strategy to manage organizational knowledge [37]. Therefore, working with both internal and external experts to create organizational knowledge should not be dismissed.

6. **Knowledge Contributions of This Study**

This study could empirically re-affirms that organizations recognize the association between knowledge management practice and its positive impact on operational performance. However, the regression model could only partially show the same as one of the knowledge management components had to be excluded during the model development. The knowledge creation component contribution could not be statistically supported as a reliable independent variable in this particular case.

However, the regression model did show that the other two knowledge management components (knowledge capturing & sharing, and knowledge application & dissemination) are strongly correlated to operational performance, and they positively contribute. Therefore, based on the analysis, it can be argued that knowledge management or at least most of its key components if not all, are positively associated with operational performance.

This study also shows that business context may impact the contributing factor of the knowledge management components discussed in literature and their reliably of used to explain operational performances. In this context only two out of the three knowledge management components could be used and so it should create research interests for explanations of such deviation from the norm.

Additionally, it provides an indication of how far the variation in operational performances can be explained by knowledge management practices. Moreover, it indicates a possible need for some form of contextual ranking for the individual knowledge management components with respects to operational performances through the measurement of their positive impact on operational performances. This could be very useful for researchers and practitioners for understanding the contributing factors of knowledge management practices while developing knowledge management initiatives for enhancing organizational competitiveness and performances.

7. **Limitations and Future Research**

This study did not capture organizational profiles and so the results cannot be tied up to any specific industry but rather a generalization of organizations. Still, the results are good indications of the extent of the different component of knowledge management use within organizations in Oman and their respective impact on operational performances. Organizations can adapt the results according to their needs when implementing knowledge management with the aim of enhancing their operational efficiency, pro-activeness and competitiveness.

As the characteristics of industries vary significantly, future studies should focus on individual industry so that the findings and recommendations can be more specific and applicable. Also, the specifics of knowledge management related activities could be captured so to identify the most impactful ones within each of the knowledge management components. This should allow for the enhancement of strategy to manage organizational knowledge by associating essential knowledge management activities with each knowledge management component.

Furthermore, an investigation in what may cause unreliability of certain knowledge management components for explaining operational performances and what can be done to improve the reliability. This will ensure that all relevant knowledge management components supported by literature form part of the regression model.

8. **Conclusion**

It is clear that Organizations in Oman recognize the importance of and thus engage in knowledge management activities related to Knowledge creation, Knowledge application & dissemination, and Knowledge capture and sharing for the benefits of Operational performance. This is shown by the ratings of nearly 4 out of 5 for each of the knowledge management component with a rating of also 4
out of 5 for their perceived contributions towards operational performances.

Regression statistics confirmed the perception of the organizations by illustrating a strong correlation of 0.87 between the knowledge management components and operational performances, with the ANOVA results confirming the reliability of the regression model for explaining operational performances. However, the analysis of the coefficients showed that the knowledge creation component to be having minimal contribution towards the model with also a high probability (0.7996) of providing unreliable results. And so, knowledge creation had to be excluded from the set of explanatory variables for predicting operational performance ratings.

The finalized regression model was based only on Knowledge application & dissemination and Knowledge capture & sharing only for explaining operational performance. The regression statistics of the finalized regression model still maintained that strong correlation of 0.87 between those two knowledge management components and operational performance while illustrating that 75.4% of the variation in operational performances could be explained by the two components of knowledge management. The ANOVA results confirmed the reliability of the regression model for predicting operational performances, and the analysis of the coefficients showed that both Knowledge application & dissemination and Knowledge capture & sharing were reliable explanatory variables for predicting operational performances.

So based on this regression model, if organizations do not engage in knowledge application & dissemination and knowledge capturing & sharing, operational performance rating would be at 0.5867 (intercept), meaning poor operational performance. Whereas, if organizations were to engage in Knowledge application & dissemination, for any unit increase in its rating, operational performance rating will be positively impacted by 0.6335, meaning a 63.35% increase in the operational performance rating. Also, if organizations were to engage in Knowledge capture & sharing, for any unit increase in its rating, operational performance rating will be positively impacted by 0.2382, meaning a 23.82% increase in the operational performance rating.

It is clear that both Knowledge application & dissemination and Knowledge capturing & sharing positively impact operational performances but the difference in impact level should also be noted. The positive impact of knowledge application & dissemination is nearly three times of that of knowledge capturing & sharing, and so organizations may want to devise a weightage scheme for engaging with each of the knowledge management component to optimize operational performances.

Finally, it was noted that active and strategic management of organizational knowledge resulted in competitiveness and enhanced operational performance. It also provided improved support at employee level, organizational level, and community level.

9. REFERENCES


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