

An Empirical Investigation of Knowledge Management Issues in the Context of Automotive SMEs in India

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Abstract: Knowledge Management (KM) has become a strategic tool, contributing to the growth and success of businesses, especially in the context of knowledge-intensive industries. However, successful execution of KM in SMEs is influenced and hindered by certain critical issues. The objective of this research study was to investigate the various Issues, that hinder the implementation of KM Practices in the Automotive SMEs sector in India. The results of the analyses indicate that there are certain critical factors, that contribute to various issues, such as Organizational, Technological, Strategic, Financial, Cultural, Measurement and Individual. These issues are seen to be having a varying degree of impact on KM implementation. The findings further suggest a substantial impact of Organizational, Technological, Strategic and Measurement issues on KM implementation. The influence of Financial, Cultural and Individual issues, although not statistically significant as compared to other issues, hinder the KM implementation in Automotive SMEs in India.

Keywords: knowledge management, KM, Indian automotive SMEs, Small and Medium-sized Enterprises, knowledge management issues, critical factors, Confirmatory Factor Analysis, CFA, knowledge management implementation.

I. INTRODUCTION

Small and Medium Enterprises (SMEs) are considered as the engine of economic development, not only in developing countries, but also in countries with developed economies. SMEs form the requisite channels, necessary to create sustainable growth and achieve employment generation in a significant manner in those economies. According to the Organization for Economic Cooperation and Development (OECD), over 95% of OECD enterprises are SMEs, which account for approximately 60-70% of employment in most countries. SMEs are also found to further influence the enhancement of productivity and economic growth of a country. World over, it is the SMEs, which play a significant role in innovation, revitalization of economy and creation of new jobs [1].

Even though the SMEs spend either too small or hardly any resources on Research & Development as compared to larger firms, they have proven themselves innovative by creating or re-engineering products as well as services and also by introducing new organisational approaches to enhance productivity. Baporikar [2] accentuated that small businesses have contributed many innovative ideas and technological breakthroughs to our society. Empirical evidences show that a disproportionate amount of innovation comes from the SMEs. Despite, splendid contribution to the Nation's economy, the SME sector in India, particularly lacks in financial, technological and human resources, which are seen impeding the growth of SMEs from becoming more competitive.

SMEs compete on their know-how and hence have to use knowledge to their advantage, even more so than traditional resources. Organizational knowledge is the most significant resource available with the SMEs, by which they can make up for deficiencies in traditional resources, such as land, labour and capital etc. [3]. Moreover, the prominence of knowledge-intensive industries makes management of knowledge, here-in referred to as Knowledge Management (KM), a strategic tool as well as an influential ingredient in the growth and success of SMEs. SMEs experience challenges in successfully implementing KM and in trying to preserve their organizations' knowledge. These challenges could be in the form of a lack of support from top management, inability in developing a clear knowledge management strategy, lack of necessary technological infrastructure and failure in adopting a knowledge management culture etc. Hence, a succinct approach to explore and understand KM in SMEs is imperative in the current scenario. Moreover, successful execution of KM in SMEs is influenced and hindered by specific critical issues. Hence, all these issues must be taken into consideration and be systematically and thoroughly investigated upon, in order for KM initiative to be successfully implemented [4].

II. DEFINITION: KNOWLEDGE & KNOWLEDGE MANAGEMENT

Various researchers have reflected upon different perceptions of knowledge and Knowledge Management (KM). Knowledge plays the role of a critical differentiator and a competitive asset in today's globalized world, which represents a new era as compared to a period, where labour and capital ruled [5]. Knowledge is the primary resource for individuals, organizations and overall for the economy. Delahaye [6] asserted that knowledge is a distinctive source, as it has no law of diminishing returns and grows from sharing. Whereas, Pillania [7] defined knowledge as a whole set of intuition, reasoning, insights and experiences related to technology, products, processes, customers, markets, competition and so on that enable effective action.

Knowledge can be divided into two categories: tacit and explicit. Explicit knowledge refers to the knowledge, which can be articulated in a formal language, such as grammatical statements, mathematical expressions, specifications, manuals and thus can be transmitted across individuals, formally and easily. On the contrary, tacit knowledge refers to the knowledge, which is hard to articulate with formal language, but is personal knowledge embedded in individual experience and involves intangible factors, such as personal beliefs, perspectives and value systems [8].

KM is mainly concerned with how an organization's knowledge resources are used. The success of KM can contribute to an organization's success, if implemented with an effective strategy. Various authors have defined KM and as such, KM is defined as the process of managing organizational knowledge. KM is the renaissance of thinking, creating, sharing, leveraging and applying knowledge, expertise and intellectual capital to retain knowledge, before employees leave the organization [9]. According to Bhanumathi [10], KM is a process through which knowledge creation, acquisition & sharing takes place, which can be used to enhance learning and performance of an organization. Boh [11] looked at KM as a mechanism to create organizational value and for improving the performance. According to him, "KM is a systematic process of acquiring, organizing, sustaining, applying, sharing and renewing both the tacit and explicit knowledge of employees to enhance the organizational performance and create value.

III. KNOWLEDGE MANAGEMENT IN SMEs

The SMEs can manage to achieve success, depending on how well they can manage their knowledge. Since the main assets of SMEs are their know-how, they need to use this knowledge to their advantage. Although SMEs might be constrained in terms of capital or labour, they have an unlimited resource in terms of knowledge [3]. SMEs need to develop their understanding of KM, if they are to maintain and improve their innovative skills further in the competitive world. SMEs are also required to consider KM as a critical business driver rather than as a resource-intensive management fad. KM is seen as a critical factor in realizing and sustaining organizational success for improved efficiency and innovation [12]. KM in SMEs can be limited, as there is a default shortage of financial and human resources as well as possible lack of time and expertise [13]. Organizations need to be familiar and be aware of the factors that would influence the success of a KM initiative. The practical implementation of KM in SMEs is governed and facilitated by certain factors. A thorough understanding of the factors that are very critical to the success of KM is essential for an organization, that intend to draw benefits from the KM implementation.

IV. LITERATURE REVIEW

It has long been researched, recognized and well documented that SMEs can derive benefits by implementing KM practices. Nunes et al. [14] were critical of the defying role of managers, who are short term focussed and do not strategize long-term KM goals. According to them, the managers also concentrate on daily routine work only, because of which SMEs experience difficulty in creating additional worth. Hence, the authors claim that SMEs follow the informal way of practising KM and is seldom supported by intended and well-designed ICT systems. Indian SMEs need to focus more on the strategic issues in KM for reaping the benefits of KM for sustainable competitiveness [15].

Handzic [12] asserted that KM is an essential tool for SMEs and should not be ignored by managers. The author addressed the issues of why and how managers of SMEs need to conduct KM in their organizations. Desouza and Awazu [3] discovered that SMEs manage knowledge in a way utterly distinct from larger firms. According to them, understanding KM practices in SMEs as small scale versions of the practices found in larger firms is inappropriate. SMEs have lesser resources and a lower rate of turnover, as compared to larger organizations. It would be wrong to assume that SMEs practice KM in similar ways as larger organizations, with the only difference being in magnitude or scale.

Pillania [16] conducted a study to explore the knowledge formulation and categorization in SMEs in the Indian automotive component sector. He emphasized that KM is a critical area for SMEs, especially in today's competitive

business environment. According to him, the SMEs have not fully exploited the benefits of KM. He further, criticized that an abundance of existing research describes KM practices in large companies, but only a few research studies have contributed to the critical success factors for KM adoption in SMEs. The author asserted that, despite the importance of the latest knowledge and concerns about the technology gap, which the SMEs experience in achieving competitiveness, the expenditure on research activities by the SMEs is a small percentage of their revenue.

Pillania [17] discovered various critical factors, which influence the KM implementation in SMEs. He meticulously identified the essential factors for KM implementation in the SME sector. According to him, the extant research has extracted the critical factors from the perspectives of large companies and have not regarded the requirements of small enterprises. His study on “Critical success factors for implementing KM in small and medium enterprises” was aimed to bridge this gap. According to the review, the author hypothesized and suggested a few critical factors, which form the basis for KM adoption in the SME sector, that includes management & support; organizational culture; IT; organizational strategies; measurement; organizational infrastructure; procedures & processes; motivational tools; organizational resources and training & education etc.

Evangelista [18] ascertained the current status of KM in SMEs as well as covered the issues that could have an impact on the adoption of KM in SMEs in the developing countries. Various big organizations have realized the benefits that could be accomplished by implementing KM and have accepted the importance of the KM in the growth of the businesses as well as future expansion and development. The authors, however, claimed that SMEs in the developing countries are still very vulnerable in their approach, as they have not yet realized the importance of KM. According to Durst and Wilhelm [19], the problematic financial situation in SMEs dramatically influences the KM activities as well as succession planning. Although the firms acknowledge the need for KM for improvement, sparing time for the KM activities is a great challenge for SMEs, as their actual scope of action is focussed on completion of current orders. The investigations by the authors offer stimulating ideas, tackling the problem of knowledge attrition and its likely outcomes for the firm’s performance. According to them, if the SMEs fail to tackle the problem of knowledge attrition, their survival would also be uncertain.

Zhou and Uhlaner [20] conducted a quantitative study of empirical data from nearly 500 Dutch SMEs to examine the prevalence of different KM practices and the organizational determinants of KM among the SMEs. Empirical results of the study revealed that the SMEs manage knowledge in a people-based approach. Moreover, SMEs are most likely to acquire knowledge by staying in touch with professionals and experts outside the company and share knowledge & experience by talking to each other. Furthermore, KM is dependent on other organizational resources and processes. According to them, organizational learning and competitive strategy with a formality approach are the decisive determinants of KM.

Hardia [21] explored the current status of KM in India and the role, ICT plays in it, as well as the scope of ICT in enhancing KM. According to the author, ICT would play a significant role in the implementation of KM practices in an organization.

Karthikeyan and Muralidharan [22] encountered various success factors that contribute to KM practices in the automotive industry in India. They considered KM as a coordinating instrument and supported their argument with sensible evidence, stating the view that a firm with KM capability will be more innovative and will perform better and consequently use resources more proficiently. Whereas, Pillania [15] carried out another study on KM strategies, in which the role of top management in big firms and SMEs were studied. The author advocated a detailed study of various issues involved in KM for SMEs and found that there is a remarkable difference in the essential requirement and the resource of SMEs, as compared to larger firms. Moreover, KM practices have appeared to be distinct in SMEs, as compared to larger firms.

Anand and Singh [23] conducted a review of the literature on KM in SMEs in the Indian context. The number of essential issues explored by the authors in the context of Indian SMEs included strategical, implementation-related, technological and performance measurement as well as benchmarking issues. Since, the Indian SMEs sector is one of the fastest-growing sectors, the authors encouraged the Indian SMEs to know what their knowledge assets are, and how to manage and make the best use of these assets to get maximum return. Further, they warned that the SMEs must have optimistic and proactive approaches to implement KM practices in SMEs to realize the full benefits of KM.

V. RESEARCH METHODOLOGY

A. Research Model Design

A conceptual model was developed based on the analyses of literature to study the influence of various issues in the implementation of KM. Issues, such as Organizational issues, Cultural issues, Technological issues, Financial

issues, Strategic issues, Individual issues and Measurement issues were identified and derived from the extant literature. 61 research items, pertaining to these issues were grouped under various constructs and the research model was thus constructed, as shown in Figure 1 and further the hypotheses were formulated.

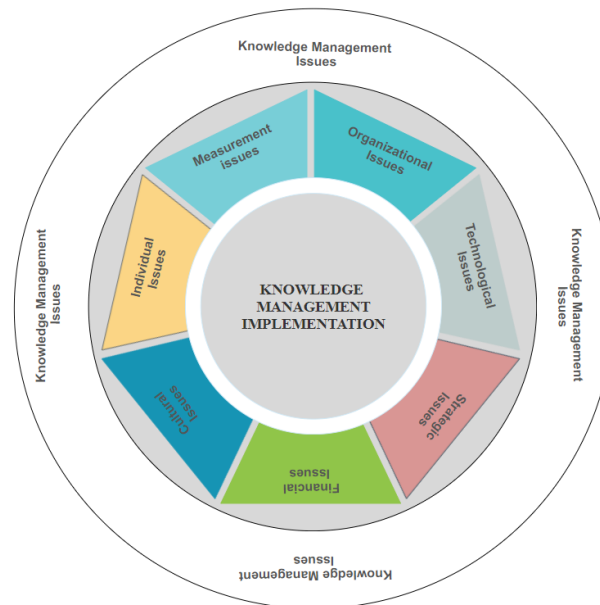


Figure 1 Conceptual Model involving the KM Issues

B. Hypotheses

Analyses of the extant literature and subsequent construction of the research model lead to the formulation of the hypotheses to be tested and they are as mentioned below.

Hypothesis 1: Organizational Issues play a vital role and are critical to the successful implementation of knowledge management in SMEs.

Hypothesis 2: Technical issues are conspicuous in the successful implementation of knowledge management in SMEs.

Hypothesis 3: Strategic issues are critical to the successful implementation of knowledge management in SMEs.

Hypothesis 4: Financial Issues create the biggest hurdle in the successful implementation of knowledge management in SMEs.

Hypothesis 5: Cultural Issues are sensitive to be factored in the successful implementation of knowledge management in SMEs.

Hypothesis 6: Measurement issues are indispensable in the successful implementation of knowledge management in SMEs.

Hypothesis 7: Individual issues are significant in the successful implementation of knowledge management in SMEs.

C. Research Instrument Design

This study is descriptive and has empirically explored various issues, which impede the KM implementation in the auto components SMEs in India. A questionnaire survey method was employed in this research for gathering empirical data with emphasis on various issues, such as Organizational issues, Cultural issues, Technological issues, Financial issues, Strategic issues, Individual issues and Measurement issues. Three hundred thirty-six responses were collected from the automotive SMEs spread across India, classified under three tiers, namely Tier1, Tier2, and Tier3. These automotive components SMEs ranged from manufacturers of automotive fasteners, clutch, brakes, seat, chassis, engine, piston, tire and others, as they supply to various OEMs from across the country.

Respondents in the SMEs were Proprietors, Chief Executive Officers (CEO), Chief Operation Officers (COO), General Managers (GM) and Managing Directors (MD) etc. These respondents were considered to be the most pertinent ones, because they are the overseers of operations in their firms and are part of the top management, who initiate the implementation of KM. Finally, the questionnaire was digitized in the form of an online survey and together with covering letters explaining the purpose of the survey were sent to a total of 600 SMEs. Additionally, one to one responses were also taken from local SMEs in and around Mumbai, Thane and Palghar Districts of

Maharashtra state in India. A fortnight after sending out the questionnaires, follow-up email and phone calls were also made and that improved the response rate.

The questionnaire was split into two sections. The first section explored necessary/demographic information about the SMEs. This information was divided into optional and compulsory information. The details, such as name, contact number and email ID of respondents were optional, whereas the designation of the respondent, name of the firm and type of industry/sector were compulsory. The second section comprised of seven types of issues and their elements that were derived from the literature.

Respondents were asked to rate the level of agreement/disagreement they placed on each element using a 5-point Likert scale (Strongly disagree=1; Disagree=2; Neither agree nor disagree =3; Agree=4; Strongly agree = 5). A pilot study (with a sample size of 25) conducted showed that the reliability values represented by Cronbach Alpha were well above the acceptable limits, as given in Table I.

D. Data Collection

After analysing the reliability and validity of the research instrument through a pilot study on a sample of 25 responses, an extensive survey was conducted. A total of 336 responses were subsequently received. Table I shows the results of the reliability analysis and Table II gives the summary of the responses received from different tiers of SMEs.

Table- I: Results of reliability analysis

Type of Issue	No.of items	Cronbach Alpha (α)
Strategic Issues	06	0.707
Organizational Issues	12	0.815
Financial issues	06	0.794
Technological Issues	09	0.786
Cultural issues	09	0.820
Individual Issues	14	0.787
Measurement issues	05	0.707
Overall	61	0.946

Table- II: Summary of responses from different tiers

Tier	No .of Response s	Percenta ge
Tier1	122	36.36
Tier2	141	41.96
Tier3	73	21.72
Total	336	100

VI. RESULTS AND DISCUSSION

Data collected were collated in Microsoft Excel and transferred to SPSS 22 and were further analysed using descriptive statistics and Factor Analysis etc.

A. Exploratory Factor Analysis

After the pilot study, an Exploratory Factor Analysis (EFA) was carried out covering all the 336 responses, so as to group variables/items based on correlations, providing a factor structure. In general, an EFA prepares the variables to be used for Confirmatory Factor Analysis (CFA).

The first step in the Exploratory Factor Analysis (EFA) was to examine, if the variables relate to one another adequately, so as to arrive at proceed to meaningful EFA analysis. The test of sampling adequacy was done by performing Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, as shown in Table III.

Table-III: KMO and Bartlett's Test

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.819
Bartlett's Test of Sphericity	Approx. 807.605
	Chi-Square
	df 36
	Sig. .000

High KMO values (between 0.5 and 1.0) indicated that the factor analysis done was appropriate. In this case, as the value (0.819) is >0.8 , the sample could be characterized as meritorious [24]. Additionally, the Significance level (0.000) was less than <0.05 , indicating that the relationship among variable was strong enough to perform EFA.

The final step in the Exploratory Factor Analysis involved reliability evaluation. The reliability was determined by calculating the Cronbach Alpha [25], which measures the internal consistency and therefore its reliability.

B. Confirmatory Factor Analysis

The Confirmatory Factor Analysis (CFA), the next step after EFA, was a validating procedure to confirm the model fit. Model fit shows, how well the proposed model accounts for the correlations between variables in the data set. The CFA method can assess the Unidimensionality, Validity and Reliability of a latent construct [26]. The assessment for each element was done as follows:

1) Unidimensionality

Respective latent construct is said to have obtained unidimensionality, when all the observed variables have acceptable factor loadings. Unidimensionality of a measurement model could be ensured by deleting any item, which has a low factor loading. The process of deletion was done one item at a time, with the lowest factor loading item being deleted first. The process was continued until the unidimensionality requirement was achieved. Unidimensionality is found to be achieved, if all factor loadings are positive [26].

According to the guidelines by Hair et al. [27], the factor loadings in the range of ± 0.30 to ± 0.40 are considered to meet the minimal level for interpretation of the model, when the sample size is more than 300. As per this rule of thumb, all the factor loadings of 0.30 were kept as having practical significance, as the sample size in the study is 336.

2) Reliability

Reliability is used to check the extent, by which the said measurement model is reliable in measuring the intended latent construct. The evaluation of reliability for a measurement model could be made using either the Internal Reliability, Composite Reliability or Average Variance Extracted [26].

a) Internal Reliability

Internal Reliability is the measure to indicate as to how strongly the measured variables are coherent in measuring the respective construct. This internal reliability is said to be achieved, when the value of Cronbach Alpha exceeds 0.7 [25].

The Cronbach Alpha value of various constructs in the measurement model achieved was more than the threshold value of 0.7, except for the individual issues. The value of Cronbach Alpha for constructs "Organizational Issues", "Technological Issues", "Strategic Issues", "Financial Issues", "Cultural Issues", and "Measurement Issues" were 0.808, 0.839, 0.869, 0.780, 0.718 and 0.801 respectively, whereas Cronbach Alpha for "Individual Issues" was 0.590. Generally, Alpha values greater than 0.7 are regarded as sufficient [25], but researchers such as [28], [29]; [27], [30] and [31] have used a cut-off value of 0.6 for Cronbach Alpha. The value of Cronbach Alpha (0.590) being very close to 0.6, suggested the consistency between different items and was accepted.

Also, recommended composite reliability (CR) and the average variance extracted (AVE) as reliability measures are derived from confirmatory factor analysis. Hence, composite reliability and the average variance extracted could be used to check the reliability of the latent construct.

b) Composite Reliability

The Composite Reliability is the measure of the reliability and internal consistency of a latent construct [26]. The composite reliability for a construct can be achieved by having composite reliability (CR) more than 0.6 [27], [32].

The composite reliability of all the latent construct was found to be within the acceptable value of more than 0.5. The value of composite reliability for various constructs, such as “Organizational Issues”, “Technological Issues”, “Strategic Issues”, “Financial Issues”, “Cultural Issues”, “Measurement Issues” and “Individual Issues” was 0.864, 0.836, 0.914, 0.722, 0.726, 0.733 and 0.586 respectively.

3) Average Variance Extracted (AVE)

AVE is a measure used to assess the convergent and discriminant validity. AVE indicates the average percentage of variation explained by the observed variables in a given latent construct. AVE varies from 0 to 1, but an AVE of 0.5 or more shows satisfactory convergent validity.

AVE of few constructs were found to exceed 0.5 rule of thumb. The AVE of constructs such as “Organizational Issues”, “Strategic Issues”, “Financial Issues” and “Measurement Issues” were 0.681, 0.655, 0.569 and 0.623 respectively. Whereas, the AVE of constructs, such as “Technological Issues”, “Cultural Issues” and “Individual Issues” were 0.415, 0.351 and 0.223 respectively, which are below the threshold value of 0.5.

Since the value of AVE of the above three constructs was less than 0.5 ($AVE < 0.5$), the variance due to measurement error was found to be larger than the variance apprehended by the latent construct, and the validity of the individual observed variable, as well as the construct, was thus dubious. However, Tekke et al. [33] considered AVE as a strict measure of convergent validity and Malhotra et al. [34] suggested that “AVE is a more conservative measure than the CR. Based on CR alone, the researcher could conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error”. Therefore, in this study, the constructs “Technological Issues”, “Cultural Issues” and “Individual Issues” were maintained, since the model fit and construct reliability were adequate and reasonable.

4) Validity

Validity is the ability of a questionnaire instrument to measure what is supposed to measure for a latent construct [26]. Validity is used as a measure to describe the accuracy of the research. Three types of validity are required for any measurement model.

a) Convergent Validity

This validity is achieved, when all items in a measurement model are statistically significant [26] and the observed variables of a specific construct should converge. To estimate the relative amount of convergent validity among item measures, either Factor Loadings or AVE could be used.

The size of the factor loading is one crucial consideration. A good rule of thumb is that standardized loading estimates should be 0.5 or higher and ideally 0.7 or higher. However, According to the guidelines, by Hair et al. [27], the Factor loadings in the range of ± 0.30 to ± 0.40 are considered to meet the minimal level for interpretation of the model, when the sample size is more than 300. As per this rule of thumb, all the factor loadings of 0.30 showed practical significance, as the sample size in the study was 336.

The value of AVE should be 0.5 or higher for this validity to achieve [26]. Keeping the low factor loading items in a model could fail the Convergent Validity of the latent construct. This research model was having AVE of three constructs, such as “Technological Issues”, “Cultural Issues” and “Individual Issues” and was less than 0.5 ($AVE < 0.5$), resulting in the convergent validity issue.

b) Construct Validity

Construct validity is the extent to which, a set of observed variables signify the theoretical latent construct they are designed to measure [27]. This validity is said to be achieved, when the Fitness Indices (FI) for a construct achieved the required level.

The model fit measured by extracting and evaluating the following parameters with the help of IBM AMOS 24 software is as shown in Figure 2.

Computation of D.O.F (Default model)

Number of distinct sample moments: 595

Number of distinct parameters to be estimated: 123

Degrees of freedom (595 - 123): 472

Result (Default model)

Minimum was achieved
Chi-square = 907.025
Degrees of freedom = 472
Probability level = .000

C. Knowledge Management Issues

The following sections elaborate on various knowledge management issues, which impede the implementation of KM in Indian Automotive SMEs. The confirmatory factor analysis was used to analyse the penetration of organizational issues, Technological issues, Strategic issues, Financial Issues, Cultural Issues, Measurement issues and Individual Issues.

1) Organizational Issues

The latent variable “organizational issues” comprised of four observed variables O1, O2, O5 and O12. Among the four items, observed variable O2 was having the maximum factor loading of 0.951. Whereas, the items, O1, O5 and O12 were having factor loadings of 0.912 and 0.586 and 0.802 respectively. This indicated that the observed variable O2 (SMEs have no unified and validated process for implementing Knowledge Management) has a powerful influence, as far as organizational issues are concerned. Observed variable O1 (SMEs Lack through

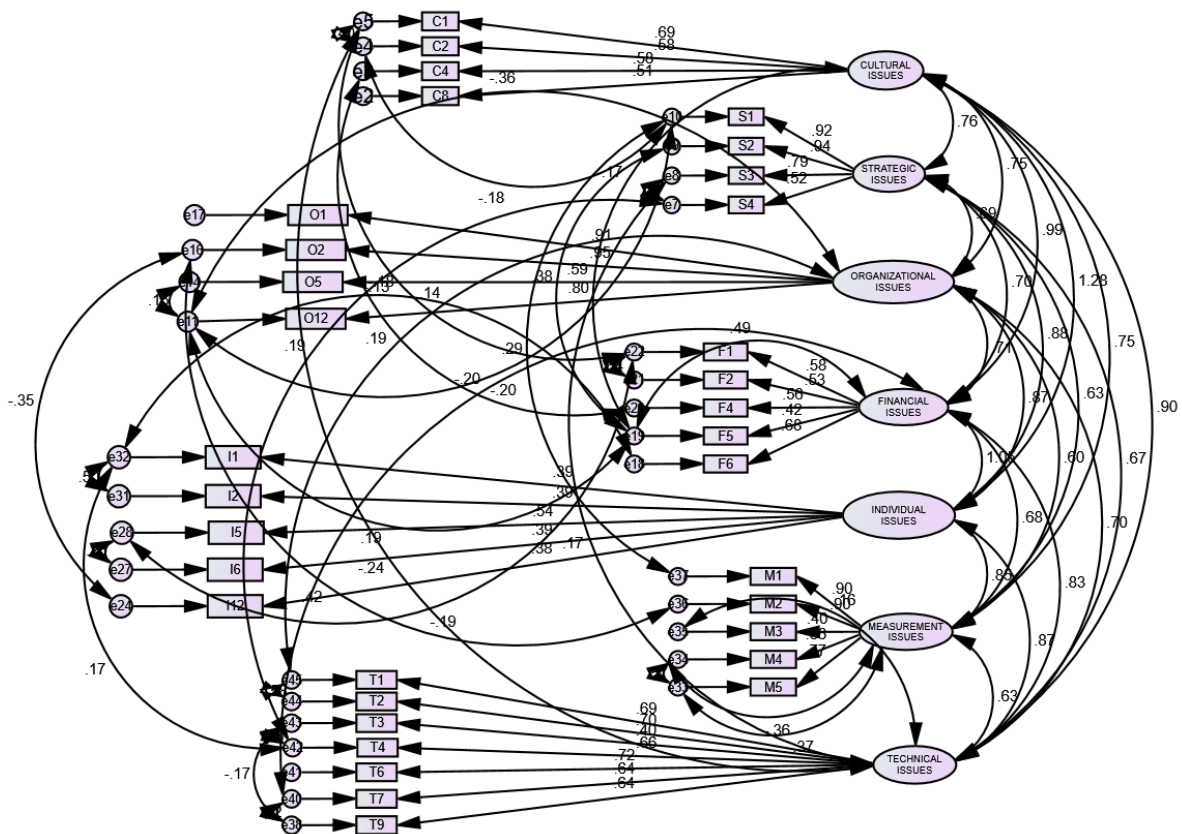


Figure 2 Standardized model

understanding of Knowledge Management and its implementation) with that factor loading of 0.90 also has a very strong influence on the organizational issues. Whereas, the measured variable O12 (SMEs Lack in Training and education for employees) with the factor loading of 0.802 contribute strongly to the organizational issues. Finally, O5 (SMEs lack understanding of how firms create knowledge and how this is translated into competitive advantages or enhanced customer relations) showed a moderate correlation with the organizational issues. As a result, hypothesis 1 was accepted, which posited that organizational issues play a vital role and are critical to the successful implementation of knowledge management in SMEs.

2) Technological Issues

The construct “technological issues” was represented by seven observed variables, namely T1, T2, T3, T4, T6, T7 and T9. Among all the measured variables, item T6 (SMEs lack knowledge database & storage and retrieval system) was having the highest factor loading of 0.73, which indicated that this item strongly influences the technological issues. Another item, T2 (SMEs use obsolete technology and lack technological infrastructure) was having factor loading of 0.701, showing that this item is also as strongly influencing the construct as item T6. Other measured variables, such as T1 (SMEs lack investment in IT systems), T4 (SMEs lack incompatibility between diverse IT systems and processes), T7 (SMEs lack uniform standards across organizations, which may lead to wrong interpretations) and T9 (SMEs lack in proper integration between management and IT approaches) were having factor loadings of 0.69, 0.66, 0.64, and 0.65 respectively, which indicated that these items also have a considerable positive impact on technological issues. The measured variable T3 (SMEs allow restricted access to IT facilities) with the factor loading of 0.396, although showing small had still a positive impact on technological issues. Hence, these items were found to give rise to technical issues, which hinder the implementation of KM in SMEs. Consequently, hypothesis 2 was accepted, which postulated that the Technical issues are conspicuous in the successful implementation of KM in SMEs.

3) Strategic Issues

The measured variables, which give rise to the latent variable “strategic issues” were S1, S2, S3 and S4. The corresponding factor loadings of all the items S1, S2, S3 and S4 were 0.917, 0.936, 0.794 and 0.521, respectively. The measured variable S1 (SMEs do not fully align Knowledge Management with business strategy) with a factor loading of 0.917 revealed the statistical significance and was found to have a considerable positive impact on strategic issues. The item S2 (SMEs do not perceive Knowledge Management as a priority in their business) with the highest factor loading of 0.936 showed a powerful influence on the strategic issues. Further, observed variable, S3 (SMEs lack strong rationale to implement Knowledge Management) with the factor loading of 0.794 contributed strongly to the strategic issues. Item S4 (SMEs lack innovative approaches towards Knowledge Management practices) with the factor loading of 0.521, though minimal, showed a positive impact on the strategic issues. As a consequence of this, hypothesis 3 was accepted, which posited that the Strategic issues are critical to the successful implementation of KM in SMEs.

4) Financial Issues

The latent variable “financial issues” comprised of measured variables F1, F2, F4, F5 and F6. The Indicator variable F1 (SMEs lack in financial resources) with a factor loading of 0.578 showed the statistical significance and a positive influence on financial issues. The item F2 (SMEs also often face precarious financial situations) having factor loading of 0.533 and F4 (SMEs do not pay the wages or provide job security usually found in larger companies) with a factor loading of 0.559 were statistically as significant as F1, also contributing to the rise of financial issues. Further, the measured variable F5 (SMEs face higher loan repayment liabilities) having factor loading of 0.418 showed a small, but still positive impact on financial issues. Finally, F6 (SMEs Lack of transparent rewards and recognition/appraisal systems that would motivate the people to share more of their knowledge) signified a very high impact with the factor loading of 0.685. Hence, hypothesis 4 was accepted, which postulated that Financial Issues create the biggest hurdle in the successful implementation of KM in SMEs.

5) Cultural Issues

The next latent variable “cultural issues” reflects the observed variables C1, C2, C4 and C8. The item C1 (SMEs do not consider workers as knowledge workers) shared a significant factor loading of 0.692, which is proven to be the biggest contributing factor to the cultural issues. Whereas, the indicator variable C2 (SMEs find it hard to motivate people to create and share knowledge) and C4 (Employees in SMEs fear to share knowledge with others) with the factor loadings of 0.581 and 0.575, respectively showed that both the items were almost equally significant and gave rise to cultural issues. Whereas, the item C8 (SMEs lack collaborative approach in business) with a factor loading of 0.506 revealed that it also has a positive impact on cultural issues. As a result, hypothesis 5 was accepted, which posited that the Cultural issues are sensitive to be factored in the successful implementation of KM in SMEs.

6) Measurement Issues

Construct variable “measurement issues”, comprised of five measured variables. The factor loadings of each of the measured variable M1, M2, M3, M4 and M5 were 0.903, 0.898, 0.396, 0.861 and 0.772 respectively. Item M1 (SMEs lack in Performance measurement practices) with the highest factor loading of 0.903 revealed very high statistical significance and had a very strong impact on the measurement issues. The importance of measurement

issues was also revealed by the items M2 (SMEs lack relevant tools to measure Knowledge Management) and M4 (SMEs Lack awareness and usefulness of having Knowledge Management in place), with the corresponding very strong correlation with the measurement issues. Whereas, the measured variable M5 (SMEs are short-term focused in their approach and expect direct, quick and tangible results) with the factor loading of 0.772 showed a very positive contribution to measurement issues. Finally, item M3 (SMEs expect that Knowledge Management should deliver value & ROI) although showed a small, still showed a positive impact on the measurement issues. Hence, hypothesis 6 was accepted and it is anticipated that Measurement issues are indispensable in the successful implementation of knowledge management in SMEs.

7) Individual Issues

The latent variable “individual issues” was found to comprise of five measured variable I1, I2, I5, I6 and I12. The corresponding values of factor loadings of all the indicator variables, although smaller than all other items used to describe the six different latent variables above, were seen to be statistically significant. The item I5 (Knowledge is concentrated amongst a limited number of individuals) with the factor loading of 0.543 revealed a very strong statistical significance and had a significant contribution to the individual issues. The measured variable I2 (Lack of Employee involvement is a crucial concern in implementing Knowledge Management) was having a factor loading of 0.394 and signified the positive impact of individual issues on KM. The items I1(Lack of trust among workers affect Knowledge Management implementation), I6 (Successors undervalue or reject the incumbent’s knowledge in Knowledge Management) and I12 (Gender differences affect Knowledge Management practices), although not statistically significant and small, compared to other indicator variables, contribute critically to the individual issues. Consequently, hypothesis 7 was accepted and posited that Individual issues are significant in the successful implementation of KM in SMEs.

VII. CONCLUSION

This study was conducted in the Indian Automotive SMEs sector, as it is considered to be amongst the fastest-growing sectors, contributing to the current growth of the Indian economy.

Based on the literature review and analysis, a few of the issues pertaining to KM implementation in SMEs were identified. It was found that, if remain unresolved, these issues impede efforts in implementing the KM in SMEs. Seven main categories of issues that emerged from the review of literature were Organizational issues, Strategic issues, Financial issues, Cultural issues, Technological issues, Measurement issues and Individual issues. The empirical findings indicate that each of the above issues with different dimensions was found to have a varying degree of impact on the Knowledge Management implementation in the Indian context. However, the influence of Organizational issues, Technological issues, Strategic issues and Measurement issues were found to be more profound. The influence of Financial, Cultural and Individual issues, though not statistically significant and is minimal as compared to other issues, still hinder the KM implementation in Automotive SMEs in India. Moreover, the penetration and the influence of each issue depend on the size of the SMEs, top management strategies, organizational & technological infrastructure, financial strength and cultural infrastructure etc., prevailing in the organization.

The study also found that, as every organization has different and specific environments in which they operate, the issues applicable to the KM implementation in different SMEs also differ. KM in SMEs needs a suitable and pertinent approach, because of its different types of characteristics. However, SMEs may not be able to manage all issues of KM at the same time, and hence an ordered and prioritised list of issues need to be prepared. KM practices could be implemented successfully in the SMEs, only when all the issues are addressed and are given due consideration.

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