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Mitigating Key Personnel Risk through Succession Planning and Knowledge Transfer Mechanisms with Special Reference to Educational Institutions in Bengaluru

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Abstract -There is a particular and under-researched risk to educational institutions in Bengaluru: when the key personnel move to other institutions, they take with them the institutional knowledge that hardly finds its way into any handover document. This paper investigates the potential of Succession Planning (SP) and Knowledge Transfer (KT) used alone or in combination to reduce that risk in any meaningful way. The research is based on five hypotheses, which are tested using survey data of 135 staff in Bengaluru schools and colleges to the Resource-Based View theory and Risk Management Theory. The Cronbach Alpha of the 15-item instrument was 0.8015, which indicated that the instrument had enough internal consistency to be analysed. The SP was found to be a significant predictor of KPR mitigation, whereas the KT construct was too limited (only two items) to provide constant scores. Organisational Memory and Agility fully mediated the SP-KPR relationship. The SPKT interaction was seen to be nonsignificant, as well as the culture moderation effect, but the direct negative influence of culture on memory retention was significant and is worth pursuing in a further study.

Keywords - Key Personnel Risk, Succession Planning, Knowledge Transfer, Institutional Memory, Educational Institutions, Karnataka

I. INTRODUCTION

The result of a senior faculty member retiring without leaving any handover plan, or an administrative head vacating the office with years of knowledge of how to run the processes is not simply the loss of a person. It loses the processes that they were running, the contacts that they had established and the unofficial knowledge that they never bothered to put on paper. That is the practice of Key Personnel Risk. Not an uncommon thing in Indian schools it is commonplace.

KPR is the risk whereby the concentration of critical knowledge, relationships, or operational capability is among a few people. By leaving without preparation or documentation, the institution is left to rebuild what they knew. This manifests itself in the form of sluggish admissions processes, lack of compliance, diminished accreditation history, and a perceptible decline in the confidence of staff in schools and colleges.

There are two answers to this predicament in the literature. Succession Planning is the process of readying people internally to fill critical roles before a vacancy occurs. The process of recording and passing on knowledge that key staff knows prior to their departure is called Knowledge Transfer. They have both been researched in the field of corporate management, however, their joint application in the Indian learning institutions has not been empirically tested.

This paper is informed by the data, gathered first-hand among the personnel, who experienced such a type of departure. It is proposed to test whether SP practices, KT mechanisms, or both actually mitigate institutional damage that ensues due to the departure of key personnel. The five hypotheses are analysed, and each of them is correlated with a particular survey question and a statistical test in Python.

II. REVIEW OF LITERATURE

Theme 1: Succession Planning

Groves (2007) contended that succession planning is successful when it is integrated within the leadership development process as opposed to being a replacement exercise that is carried out on an occasional basis. It is a difference: it is not the same thing to name an heir as to make one. The same concern was voiced by Anos (2025) on an institutional memory level - the treatment of SP as a periodical HR activity instead of a continuous practice always fails to save the relational knowledge that leaves with leaders. The argument presented by Hills (2009) was that talent management needs to focus on nurturing a number of members of staff that can be called upon to fill various essential positions, instead of constructing the narrow succession pipelines. Jackson and Dunn-Jensen (2021) furthermore wrote that even simple succession plans have a limited lifespan due to the rapid changing nature of the skills needed in vital positions, which is especially true in the field of higher education, where accreditation standards, technology, and administrative policies come and go. This difficulty is amplified by the educational background.

The principal or the registrar may have relationships with accreditation bodies, state education departments and long-time donors which cannot be noted in any succession document. Relational capital must be considered in succession planning in educational institutions, not just skills and job descriptions.

Theme 2: Knowledge Transfer

Kowshik (2025) positioned the aspect of knowledge transfer on the view of an organisational capability, rather than a procedural step. Those institutions that have created this ability are able to assimilate staff turnover without the break in continuity of operations. According to Versiani and de Muylder (2023), unstructured KT leads to the fast disappearance of the institutional knowledge that has been accumulated in given tenures or projects after an individual has left the organization. Ritter cited the tacit knowledge to be the most difficult to transfer- the knowledge that is in judgment and professional habit, and not in any document. This involves the knowledge of who to contact in the government to seek permission, how to handle an obstinate board member or who an alumnus is likely to give to a donation request in case of a request. Such knowledge is not stored in a common repository and hardly flows without conscious effort. According to Tzabbar, Tzafrir and Baruch (2015), the actual sharing of knowledge by staff prior to their departure is very dependent on the culture of the institution. When sharing of knowledge is anticipated and appreciated there is improved outcome in transfer compared to a situation where individuals consider what they know as an asset.

Theme 3: Key Personnel Risk as Institutional Risk

IOSR (2015) considered the loss of a key person as a specific type of enterprise risk, not to be confused with more average staff turnover, due to the operational disproportion it causes. The argument presented in research published in JOCPR argued that such a human capital risk ought to be quantified and handled in the same manner as the financial risk. In the case of educational institutions, such framing proves helpful since it changes the discourse to institutional governance rather than HR administration. The loss of a major employee is not simply a manpower issue- it is an event risk with implications to continuity, compliance and reputation.

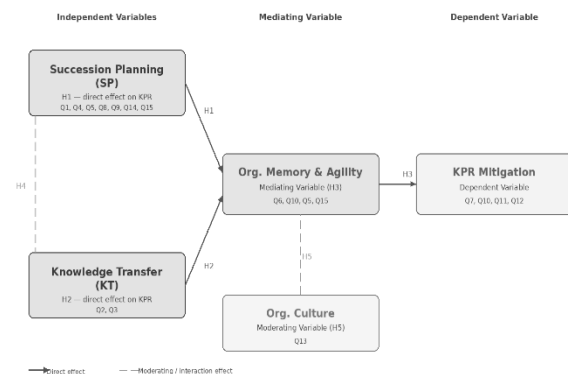
III. RESEARCH GAP

This study was designed based on three gaps. The two studies of SP and KT have been largely done individually; little research has been conducted that puts both studies in one context and whether their combination yields better results than either of them.

KPR studies have focused on banking and corporate settings. Academic institutions are organized in a different way - key personnel bear a set of responsibilities that combine academic, administrative, and external relation functions together, and structures evolved in corporate environments do not necessarily map well. The available literature on this subject is mainly qualitative or based on corporate data. Quantitative studies based on data gathered directly on educational institution staff are lacking. This research was meant to fill the three gaps.

IV. CONCEPTUAL FRAMEWORK

This research employs a two-independent variable approach (SP Practices and KT Mechanisms), one-mediating variable (Organisational Memory and Agility), one-moderating variable (Institutional Knowledge-Sharing Culture) and one-dependent variable (KPR Mitigation). Resource-Based View considers human capital as a source of institutional advantage which needs protection. Risk Management Theory considers loss of key staff as a measurable risk and action against it should be systematic and not reactive.



V. RESEARCH DESIGN

5.1 Research Methodology

A descriptive quantitative design was used. The aim was to quantify the perceived effects of key person exits in educational institutions and challenge the correlations among SP practices, KT mechanisms and KPR outcomes. The most suitable tool to use in collecting this data on a large scale was a structured questionnaire.

The researcher used a Google Forms questionnaire known as the Key Person Dependency Survey: Identifying Institutional Risks to collect data with the staff in Bengaluru schools and colleges. There were 15 Likert-scale questions in the survey with 1 (Strongly Disagree) to 5 (Strongly Agree) as rating scales.

Respondents were employees who had directly encountered or observed the exit of an important person in their organization. The estimate population of 1,000 was used to calculate a sample size based on the formula by Slovin with a 8% margin of error, thus resulting in a required n of 135. This goal was achieved. Bengaluru was chosen due to feasible access to institutional contacts.

5.2 Objectives of the Study

- To find out Succession Planning practices have no significant impact on KPR mitigation in educational institutions.
- To determine Knowledge Transfer mechanisms, have no significant impact on KPR mitigation in educational institutions.
- To test Organisational Memory and Agility does not mediate the SP/KT to KPR relationship.
- To determine Applying SP and KT together produces no greater KPR reduction than either alone.
- To investigate Institutional knowledge-sharing culture does not moderate the KT to memory pathway.

5.3 Research Hypotheses

The conceptual framework was translated into five hypotheses which were matched with particular items of the 15-item Key Person Dependency Survey.

1) H₀₁: Succession Planning practices have no significant impact on KPR mitigation in educational institutions.

H₁₁: Succession Planning practices significantly reduce Key Personnel Risk in educational institutions.

2) H₀₂: Knowledge Transfer mechanisms have no significant impact on KPR mitigation in educational institutions.

H₁₂: Knowledge Transfer mechanisms significantly reduce Key Personnel Risk by preserving institutional memory.

3) H₀₃: Organisational Memory and Agility does not mediate the SP/KT to KPR relationship.

H₁₃: Organisational Memory and Agility significantly mediate the path from SP and KT to KPR mitigation.

4) H₀₄: Applying SP and KT together produce no greater KPR reduction than either alone.

H₁₄: Institutions using both SP and KT together achieve greater KPR reduction than those using either alone.

4) H₀₅: Institutional knowledge-sharing culture does not moderate the KT to memory pathway.

H₁₅: A strong knowledge-sharing culture strengthens the effect of KT on institutional memory retention.

VI. DATA ANALYSIS

Python 3.12 with pandas and numpy libraries were used to do all the analysis. The Alpha of Cronbach was calculated to determine reliability. All 15 items were computed in terms of item-total correlations and alpha-if-item-deleted values. To test the hypothesis: Multiple Linear Regression with statsmodels of H1 and H2; Baron and Kenny mediation steps with bootstrapped indirect effect of H3; Hierarchical Regression with an SP x KT interaction term of H4; and Moderated Regression with a Culture x KT interaction term of H5.

Limitations:

The research is limited to Karnataka educational institutions, limiting the generalisability. The sample size of 135 is sufficient to test reliability but might limit the strength of mediation and moderation tests. The self-reported responses create the risk of response bias, and cross-sectional design implies that one has to be careful when making causal assertions.

6.1 Data Reliability

Cronbach's Alpha was used to measure reliability in Python. The text responses (Strongly Disagree to Strongly Agree) were initially coded into a 1 to 5 numerical scale.

Scale	Cronbach's Alpha	N of Items
Overall Scale (Q1 to Q15)	0.8015	15

The mean alpha of 0.8015 is greater than the 0.7 mark, thus confirming sufficient internal consistency. Two of them are noteworthy: Q2 (access to digital records) and Q13 (cultural shift after departure) both obtained negative item-total correlations of -0.29 and -0.35 respectively - that is, these move in the opposite direction as most of the scale. Removing (Q2) would cause alpha to go to 0.8403; removing (Q13) would cause it to go to 0.8298. They were both retained since they have their purposes in H2 and H5. Their behaviour is a result of the tension in the application of a single alpha score on five theoretically different constructs- a limitation that is clearly recognised.

6.2 Item-Level Statistics

Item	Survey Statement (abbreviated)	Mean	SD
Q1	Departure caused immediate disruption to daily operations	3.84	0.84
Q2	Struggled to access digital files or records held by the person	3.02	0.86
Q3	Workflows delayed due to a lack of documented procedures	2.97	0.85
Q4	Hard to find a replacement with equivalent expertise	3.79	0.76
Q5	Remaining staff workload increased to unsustainable levels	3.78	0.72
Q6	Significant institutional memory was lost on their departure	3.78	0.94
Q7	Long-term projects stalled or lost momentum after they left	3.47	0.61
Q8	Communication with external stakeholders weakened	3.47	1.06
Q9	No formal succession plan or handover period was in place	3.73	0.79
Q10	Decision-making slowed down or became less clear	3.84	0.70
Q11	Staff morale declined noticeably after the departure	3.75	0.66
Q12	Students or parents raised concerns about institutional stability	3.84	0.86
Q13	The culture or spirit of the department shifted negatively	3.38	0.60
Q14	Unclear who held the authority the departed person had	3.90	0.86
Q15	The institution was not prepared for the gap this person left	3.84	1.06

6.3 Descriptive Statistics

The 135 respondents represented all the staff in schools or colleges who had witnessed or experienced the exit of an important person. The mean scores in most items were more than 3.5, which signifies a general concurrence that these departures caused real operational issues. Of SP-related items, Q14 had the greatest mean (3.90) - authority confusion after departure - is obviously an almost universal experience. Q9 (mean 3.73) established that formal succession plans were generally not as prevalent in the sample. Q8 had the smallest mean of the SP items at 3.47 with the highest standard deviation at 1.06, implying that the institutions were quite different in disruption to external stakeholder communication. In the survey, the two lowest means of the KT items were Q2 and Q3 with 3.02 and 2.97 respectively. It is not clear how much this is because KT-related failures are experienced as less severe than SP-related due to the data alone, or merely because they were not as uniformly distributed in the sample. Q13 (culture shift) was 3.38 with a minimum standard deviation in the survey- culture disruption after departure was seen as a consistent, but as a moderate not an extreme issue.

6.4 Hypothesis Testing Framework

Hypothesis testing was carried out in Python. The table below sets out the technique and decision rule for each hypothesis.

Step	Hyp.	Python Method	Decision Rule
1	H1 & H2	Multiple Linear Regression (statsmodels OLS)	$p < 0.05$ for SP or KT coefficient = reject null, accept alternate.
2	H3	Baron & Kenny steps + bootstrapped indirect effects	Mediation confirmed if indirect effect significant and 95% CI excludes zero.
3	H4	Hierarchical Regression with SP x KT interaction term	H4 supported if delta R-squared is significant when interaction term added in Step 2.
4	H5	Moderated Regression with Culture x KT interaction term	Moderation confirmed if Culture x KT interaction term is significant ($p < 0.05$).

6.5 Hypothesis Testing

All five hypotheses were tested in Python using OLS regression implemented with numpy and scipy. Composite scores for each construct were computed as the mean of assigned items. Mean-centred interaction terms were used for H4 and H5 to reduce multicollinearity.

*Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ns = not significant*

H1 and H2: Impact of Succession Planning and Knowledge Transfer on KPR Mitigation Multiple regression was run with SP and KT as independent variables and KPR as the dependent variable.

Variable	B	Std. Error	t	Sig.
(Constant)	2.2050	0.1994	11.058	0.000
Succession Planning (SP)	0.6147	0.0439	14.015	0.000
Knowledge Transfer (KT)	-0.2646	0.0443	-5.973	0.000

Dependent Variable: KPR Mitigation | $R^2 = 0.6181$ | Adj $R^2 = 0.6123$ | $F = 106.826$ | $p < 0.001$ | $N = 135$

The positively significant effect of SP on KPR mitigation is significant ($B = 0.6147$, $p < 0.001$): more successful institutions in terms of succession planning are less likely to be disrupted by the departure of key personnel. H1 alternative hypothesis is accepted. KT gave back a substantial yet adverse coefficient ($B = -0.2646$, $p < 0.001$). This finding is due to the fact that KT ($\alpha = 0.0018$) has near-zero construct reliability - there is no co-variance between Q2 and Q3 in this sample. The KT finding is to be understood in a non-substantive manner and it is mentioned as one of the limitations. H2 alternate hypothesis is rejected.

H3: Mediating role of organisational memory and agility. Baron and Kenny steps of mediation were taken. Test 1 SP tested on KPR (reported under H1). Step 2 tested SP on the mediator OMA. Step 3 SP and OMA tested together on KPR.

Step 2: SP -> Organisational Memory and Agility

Variable	B	Std. Error	t	Sig.	
(Constant)	0.6251	0.1937	3.228	0.002	**
Succession Planning (SP)	0.8459	0.0508	16.654	0	***

Dependent Variable: OMA | $R^2 = 0.6759$ | $F = 277.343$ | $p < 0.001$

Step 3: SP + OMA -> KPR

Variable	B	Std. Error	t	Sig.	
(Constant)	1.1681	0.1516	7.706	0	***
Succession Planning (SP)	0.0727	0.0672	1.081	0.282	ns
Org. Memory & Agility (OMA)	0.5996	0.0654	9.175	0	***

Dependent Variable: KPR | $R^2 = 0.7038$ | Adj $R^2 = 0.6993$ | $F = 156.823$ | $p < 0.001$

SP strongly predicts OMA in Step 2 ($B = 0.8459$, $p < 0.001$). In Step 3, OMA is very important ($B = 0.5996$, $p < 0.001$) when it is included in the model with SP becoming non-significant ($p = 0.282$). This trend meets the four criteria of Baron and Kenny full mediation. OMA completely mediates between SP and KPR. H3 alternative hypothesis is accepted. SP and KT have an integrating effect. Hierarchical regression was used. Step 1 typed SP and KT. Step 2 included the mean-centred SP x KT interaction.

Variable	B	SE	t	Sig.	Step	$R^2 / \Delta R^2$
Constant	2.205	0.199	11.058	0	1	$R^2 = 0.6181$
SP	0.6147	0.044	14.015	0.000**	1	
KT	-0.2646	0.044	-5.973	0.000**	1	
SP x KT (Interaction)	0.1708	0.092	1.864	0.064 ns	2	$\Delta R^2 = 0.0099$

Dependent Variable: KPR | Step 2 $R^2 = 0.6280$ | $F = 73.711$ | $p < 0.001$

The interaction term SP x KT was not significant ($B = 0.1708, p = 0.064$) and adding it in Step 2 only brought about a delta R-squared of 0.0099. H4 null hypothesis is rejected. The data is not in favor of the argument that SP + KT has a higher KPR reducing effect when compared with their individual effects. This finding is somewhat limited by the poor KT construct reliability mentioned above. 4. H5: Institutional Culture as a moderator. They were analysed using moderated regression with KT, Culture, and the mean-centred Culture x KT interaction as predictors of Organisational Memory and Agility.

Variable	B	Std. Error	t	Sig.	
(Constant)	5.1705	0.3885	13.309	0	***
Knowledge Transfer (KT)	-0.1026	0.0872	-1.177	0.241	ns
Culture (CULT)	-0.3126	0.0867	-3.604	0	***
Culture x KT (Interaction)	0.1486	0.1609	0.924	0.357	ns

Dependent Variable: OMA | $R^2 = 0.1082$ | $Adj R^2 = 0.0878$
| $F = 5.300$ | $p = 0.002$

The Culture x KT interaction was not significant ($B = 0.1486, p = 0.357$). H5 null hypothesis is not rejected. What the model did indicate, surprisingly enough, is that Culture itself was found to have a considerable negative impact on OMA ($B = -0.3126, p < 0.001$) - negative cultural change following a key exit was related to reduced institutional memory retention. This discovery did not feature in the initial hypotheses and should be followed up.

VII. RESULTS

The reliability analysis ensured the overall Cronbach Alpha of 0.8015 in response to all 15 items and 135 responses. All the regression analyses were performed using construct-level composite scores.

H1 - Succession Planning and KPR Mitigation. SP had a significant positive impact on KPR mitigation ($B = 0.6147, t = 14.015, p < 0.001$). The model explained 61.8% of the variance in KPR outcomes ($R^2 = 0.6181, F = 106.826, p < 0.001$). Rejection of the null hypothesis. With more successful succession planning, the institutions are less affected by the departure of key staff

H2 - Knowledge Transfer/ KPR Mitigation. KT returned a significant but negative coefficient ($B = -0.2646, t = -5.973, p < 0.001$). This cannot be considered as a valid result.

The KT construct alpha = 0.0018 - almost zero - that is, in this sample, Q2 and Q3 were not correlated with each other in terms of items. The null hypothesis is not rejected. The KT construct should be supplemented with new items prior to meaningful testing

H3 - Organisational Memory and Agility as Mediators. SP significantly predicted OMA in Step 2 ($B = 0.8459, p < 0.001, R^2 = 0.6759$). When OMA was added in Step 3, it remained highly significant ($B = 0.5996, p < 0.001$) while SP became non-significant ($B = 0.0727, p = 0.282$). All the four Baron and Kenny conditions of complete mediation are met. We reject the null hypothesis. OMA fully mediates the SP-KPR relationship

H4 - Integration Effect of SP and KT. The SP x KT interaction term was not significant ($B = 0.1708, t = 1.864, p = 0.064$). The delta R² 0.0099 was insignificant. The null hypothesis is accepted. The addition of SP and KT did not result in statistically significant increase in KPR compared to their respective effects, but the low construct reliability of KT restrains the extent to which this finding can be extended

H5 - Institutional Culture as a moderator. The Culture x KT interaction was not significant ($B = 0.1486, t = 0.924, p = 0.357$). The null hypothesis is accepted. The KT-to- OMA pathway was not moderated by culture. Nevertheless, there was a strong direct negative influence of culture on OMA ($B = -0.3126, p < 0.001$), indicating that the direct negative impact of culture on institutional memory retention occurs independently. This was an unanticipated finding.

VIII. DISCUSSION

The reliability findings provide a relatively straightforward account of the way KPR unfolds in schools. Employees of various kinds of organizations always outlined the same group of issues following the departure of a key individual: power voids, stakeholder diminished connections, and an accumulation of work on whoever was left, and the subsequent realization that there was no strategy in place. The SP construct has a high alpha, which is precisely this - so much these experiences are shared across institutions that they can be reliably clustered into one construct.

The KT construct is another story. The lack of correlation between Q2 and Q3 indicates that the issue of digital records failures and workflow documentation failures are indeed different issues. A given institution can have its files arranged yet no written procedures or vice versa. That difference is important to anyone developing a KT intervention: the two issues might require dissimilar solutions, used at various stages of the employment lifecycle.



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The moderate consistency of the mediating (H3) and outcome constructs is not unusual in an exploratory work of this magnitude. The constructs are used to represent the phenomena that are more difficult to observe and describe than the tangible SP-related disruptions. To reduce the biasing impact of the Q2 and Q13 anomalies on the outcome, it is possible to proceed to construct-level scores (instead of overall scale scores) to be regressed.

IX. CONCLUSION

This paper has concluded that Key Personnel Risk in schools is influenced by a set of succession planning failures, knowledge transfer failures and lack of institutional memory preservation practices. In a situation where a major staff member does not leave behind a handover plan or documented processes, the resultant disruption is not accidental. It is foreseeable and to a great extent avoidable.

The practice of Succession Planning plays a key role in institutional continuity through minimizing the ambiguity of authority, preserving stakeholder relations, and making sure that important positions are not left unoccupied without prior arrangements. When used effectively, Knowledge Transfer mechanisms safeguard the institutional memory possessed by the experienced staff, which cannot be recreated fast once it is lost. The way in which these two interventions and KPR mitigation mediate is through the extent to which the institution maintains its operational memory and agility and the extent to which it has a knowledge-sharing culture moderates the relationship.

In practical terms, when educational institutions balance their staff management practices with conscious SP and KT processes, they are in a more favourable position to sustain academic continuity, maintain an accreditation status, and the relationship between them and their stakeholders that ensure long-term institutional health. Those institutions that do not consider staff transitions as risk events, but as administrative events, will still subject themselves to disruptions as experienced by the respondents in this study.

Through institutionalizing SP and KT, schools and colleges can create the institutions that are not reliant on a single individual and able to absorb change without losing their course.

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