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# Assessing HRIS Effectiveness in Compliance Management among IT Employees within Trichy District

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**Abstract- The Information Technology (IT) sector necessitates strict compliance measures to maintain operational integrity and data security because of the quickly changing regulatory environment. This research aims to assess how well Trichy's IT organizations manage compliance using Human Resource Information System (HRIS) solutions. The research, which involved 2347 individuals in a variety of jobs across several IT businesses, used a thorough questionnaire to explore how employees perceive HRIS performance in negotiating intricate compliance concerns unique to the IT industry. Employee familiarity with compliance rules, data security, privacy features, audit trail maintenance, efficiency of documentation, and adequate user support are among the factors that are being examined. Regression modelling, multivariate analysis, and statistical validation approaches are used in this work to find connections and underlying patterns that affect compliance efficiency. The results of research highlight how important it is for users to be conversant with regulations, since they show a favourable link with improved compliance procedures. Data security plays a critical role in IT firms and is identified as a fundamental factor effecting compliance efficiency. In Trichy's IT industry, accessibility and the efficacy of HRIS characteristics emerge as critical factors in maximizing compliance procedures. The study's conclusions provide specific advice on how to improve HRIS capabilities so that they smoothly mesh with the complex compliance requirements that are common in Trichy's IT environment. Consequences and significance, this study adds to a better knowledge of how HRIS systems can be tailored to successfully navigate and manage compliance in the always changing regulatory landscape of the IT sector. The consequences encompass methods for technology adoption within organizations, guaranteeing strong compliance management procedures that are essential for maintaining the security and integrity of IT operations within Trichy's IT industry.**

**Index Terms- HRIS, Compliance Management, Information Technology (IT) Industry, Regulatory Compliance, Data Security**

## I. INTRODUCTION

The development of Human Resource Information Systems (HRIS) has revolutionized organizational operations in recent times; yet, its potential in the field of compliance management has not been fully realized. The insufficient integration of HR development methods with Information Systems (IS) assistance for compliance management is the reason for the underutilization of Human Resources Management (HRM). It is believed that using an HRIS will enable the transition from traditional human resource management to computerized HRM, which will unlock unrealized potential. Similar to how enterprise resource planning (ERP) tools have revolutionized the HR industry, HRISs may standardize compliance-related tasks. It is projected that this paradigm shift to HRIS-supported compliance management will improve the strategic role of the HR department, especially in compliance management, and streamline HR operations. HRIS must be in line with organizational objectives in order to promote compliance-driven decision-making. Yet this change raises important questions about how HR staff members see the effectiveness of HRIS in a number of areas, including knowledge with compliance requirements, data security, privacy features, effective documentation, audit trail upkeep, and sufficient user assistance. Although the demonstrated effects of strategically implementing HRIS in compliance management at the organizational level are well-established, little is known about how HR staff members see HRIS performance in these critical areas. Thus, the purpose of this study is to clarify how HRIS performance—which includes a variety of complex attributes—affects how successful compliance management strategies are in the HR field. The study makes assumptions about the effect of HR information systems on employee attitudes, compliance efficiency, and overall compliance management effectiveness. It does this by drawing on insights from the Technology Acceptance Model (TAM) and current technology implementation literature.

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In order to support a sophisticated understanding of technology integration in HR compliance procedures, the need for the study is to shed light on the complex relationship between HRIS performance across numerous dimensions and its implications on compliance management methods.

## II. LITERATURE REVIEW

In the contemporary regulatory landscape, the convergence of Human Resource Information Systems (HRIS) and compliance management has emerged as a pivotal concern for organizations seeking efficient alignment with regulatory mandates. This comprehensive review amalgamates insights from a spectrum of studies to delineate the pivotal role of HRIS in reinforcing and enhancing compliance strategies across diverse organizational ecosystems.

**1. Understanding HRIS Integration**
Studies by Ruël et al. (2007) and Broderick & Boudreau (1992) underscore the foundational role of HRIS in seamlessly aligning HR strategies through integrated systems. This comprehensive functionality encapsulates data collection, storage, and management, elucidating HRIS as a linchpin in managing human capital effectively.

**2. Exploring HRIS Applications and Implementation Dynamics**
Insights from Clark et al. (2000) and Yeung (1995) shed light on the diverse spectrum of HRIS applications and the critical prerequisites essential for successful implementation. The significance of preparedness and essential factors for seamless integration underscore the complexities of incorporating HRIS within organizational frameworks.

**3. Perceived Benefits, Barriers, and Performance Metrics**
Ngai et al. (2008, 2004) meticulously dissect the perceived benefits and impediments surrounding HRIS implementation, delineating potential advantages like cost reduction and enhanced HR services, juxtaposed against barriers such as funding inadequacies. Complementing this, Watson and Wyatt (2002) identify pivotal metrics supporting HRIS integration, emphasizing outcomes like increased productivity and streamlined communication.

**4. Challenges, Impediments, and Organizational Impact**
Beckers and Bsat (2002) enumerate primary gains from HRIS integration, aligning with heightened competitiveness and comprehensive HR function reengineering. Conversely, impediments highlighted by Kovach and Cathcart (1999) and Iacovou, Benbasat, & Dexter (1995) emphasize financial constraints and managerial skills as potential barriers to seamless integration, reflecting on the organizational impact of HRIS adoption.

**5. HRIS: Security, Technology, and Organizational Adoption**
Studies by Hussain et al. (2007) stress the paramount importance of robust security measures and technological adaptability in the face of evolving landscapes. Simultaneously, Panayotopoulou et al. (2007) emphasize the cultural and technological shifts essential for successful HRIS assimilation within organizational structures.

**6. HRIS and Compliance Management: Intersecting Realms**
Transitioning into the compliance sphere, studies by Evans (2012) emphasize the paradigm shift towards self-regulation, contrasting governmental regulations with more efficient and flexible self-regulatory models. Furthermore, frameworks like the Federal Sentencing Guidelines for Organizations (FSGO) and regulatory acts such as the Sarbanes-Oxley Act (SoX) underscore the necessity of stringent oversight, reporting mechanisms, and robust internal controls for effective compliance.

**Non-Financial Reporting, Risk Management, and Ethical Considerations**
The emergence of non-financial reporting (NFR) aligns with global standards, emphasizing the interlinkage between compliance, risk mitigation, and reputational value. Ethical considerations, often entwined with compliance, necessitate leadership commitment, employee training, and consistent reviews to foster effective compliance programs, positioning ethics as a core pillar of compliance frameworks.

**HRIS as a Compliance Enabler: Synthesizing Insights**
The integration of HRIS insights with compliance dynamics illuminates the instrumental role of robust HRIS implementation in fostering compliance management. Effective utilization of HRIS enables organizations to streamline data management, align with regulatory frameworks, mitigate risks, and cultivate a culture of adherence and ethical conduct.

## III. METHODS

**1. Nature of the Study**
The usefulness of Human Resource Information System (HRIS) tools in managing compliance within Trichy's Information Technology (IT) sector is investigated in this study using a quantitative approach. Data are gathered at a particular point in time using a cross-sectional study approach, which gives an overview of employee attitudes and HRIS performance in relation to compliance management. Understanding the current correlations and patterns within the chosen variables is the main goal in order to provide important insights into the complex dynamics of HRIS utilization for compliance in the IT business. The study's quantitative design makes it easier to find connections,

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predictors, and underlying trends through the application of statistical tools including multivariate analysis and regression modeling. A quantitative foundation for analyzing the intricate interactions between various aspects of HRIS performance and compliance efficiency is provided by the structured survey instrument, which makes it possible to gather data from a sizable sample in a methodical manner. The study intends to provide insights for the larger IT sector as well as generalizable conclusions that apply to Trichy's IT enterprises.

## 2. Data Collection

The three-month study's data gathering procedure comprised a thorough survey given to 2347 respondents who represented a range of roles in Trichy's IT industry. The purpose of the survey was to learn more about how employees felt about how well HRIS solutions performed in managing compliance in the quickly changing regulatory environment that is unique to the IT business. The survey was given out to a number of IT organizations in the Trichy region.

A number of factors were thoroughly investigated by the survey instrument, such as employee acquaintance with compliance rules, data security, privacy features, audit trail maintenance, efficiency of documentation, and adequate user assistance. This methodology facilitated a refined comprehension of HRIS efficacy in navigating intricate regulatory facets specific to the information technology industry. The study's primary data were collected via Google Forms, saved in Excel, and then transferred to SPSS for statistical analysis. The creation of the structural equation modeling (SEM) model was done using SPSS Amos. Furthermore, secondary data were gathered from reliable online sources, which included scholarly journals, conference proceedings, and respected publications in the domains of compliance, information systems, human resource management (HRM), and related subjects. Because surveys are a useful tool for obtaining subjective insights from a wide sample of participants and enable a thorough study of employee opinions, their use as the major data collection method was justified. Because the survey instrument was constructed, it was easier to look at particular aspects that are important for IT industry compliance management.

## 3. Data Analysis and Interpretation

Regression modeling, thorough multivariate analysis, and strong statistical validation procedures were all part of the data analysis step. These techniques were selected in order to identify the relationships, trends, and underlying knowledge that are essential for maximizing HRIS capabilities designed to satisfy the complex regulatory requirements that are common in Trichy's IT industry.

In order to comprehend the links between several variables at once, multivariate analysis was used. This allowed for a thorough investigation of the intricate interactions between various aspects of HRIS performance and compliance efficiency. Finding important variables impacting compliance management was made easier with the use of regression modeling, which also offered insightful information for tactical decision-making. The study's conclusions were made more credible by using statistical validation procedures to guarantee the validity and reliability of the data. The chosen methodological approach is in line with the research goals of investigating the complex relationship between HRIS performance and IT domain compliance management methods. The study was conducted over the course of three months, with an organized and well-defined schedule for administering the survey, collecting data, and analyzing the results. The statistical analysis and SEM modeling capabilities of the programs used—SPSS and SPSS Amos, respectively—led to their selection. The rigor and validity of the analytical process were ensured by the determination that these instruments were suitable for managing the intricacy of the data and the research goals.

### Demographic Analysis of Respondents

Table 1: Distribution of Participants across Age Groups

| Age | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 20-30 | 606 | 25.8 | 25.8 | 25.8 |
| | 30-40 | 585 | 24.9 | 24.9 | 50.7 |
| | 40-50 | 599 | 25.5 | 25.5 | 76.3 |
| | 50 & above | 557 | 23.7 | 23.7 | 100.0 |
| | Total | 2347 | 100.0 | 100.0 | |

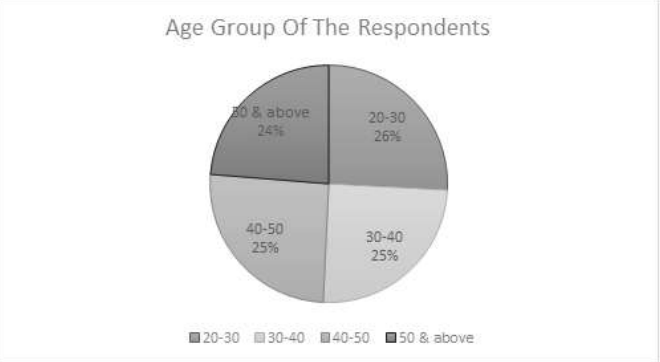


Fig 1: Distribution of Participants Across Age Groups

### Inference

The table displays the distribution of participants across different age groups. Majority of participants (50.7%) fall within the age range of 20-40, with fairly balanced representation among the 20-30, 30-40, and 40-50 age brackets. Around a quarter of the participants (23.7%) belong to the 50 and above age category, showcasing a relatively diverse age distribution within the surveyed population.

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Table 2: Distribution of Gender among Participants

| Gender | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 1041 | 44.35 | 44.35 | 44.35 |
| | Female | 1300 | 55.40 | 55.40 | 100.0 |
| | Total | 2347 | 100.0 | 100.0 | |

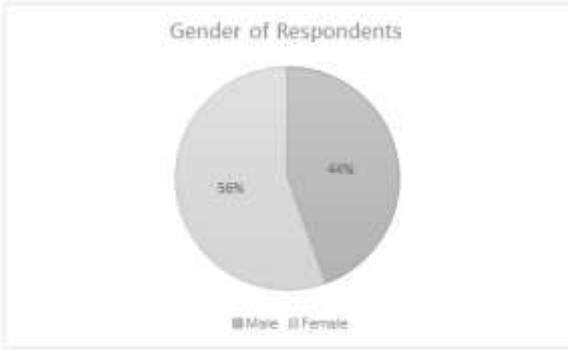


Fig 2: Distribution of Gender among Participants

**Inference**

The above table shows gender distribution among participants, with females constituting the majority, representing 55.4% of the respondents, while males make up 44.35%. This distribution illustrates a notable prevalence of female respondents in the dataset.

Table 3: Distribution of Income Among Respondents

| Income | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | less than 30,000 | 850 | 36.22 | 36.22 | 36.22 |
| | 30,000-50,000 | 740 | 31.53 | 31.53 | 67.75 |
| | 50,000-80,000 | 356 | 15.17 | 15.17 | 82.92 |
| | 80,000-1,20,000 | 269 | 11.46 | 11.46 | 94.38 |
| | above 1,20,000 | 132 | 5.62 | 5.62 | 100.0 |
| | Total | 2347 | 100.0 | 100.0 | |

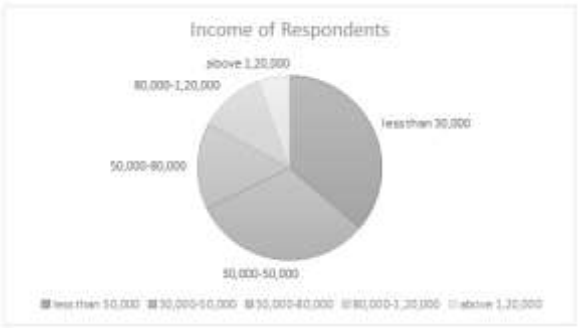


Fig 3:Distribution of Income Among Respondents

**Inference**

The data illustrates the distribution of income levels among participants. The majority of respondents fall within the income bracket of less than 30,000, representing 36.22% of the sample. Additionally, 31.53% report an income range between 30,000 and 50,000, contributing significantly to the overall distribution.

As the income bracket increases, there's a gradual decline in the percentage of respondents, with 15.17% falling between 50,000 and 80,000, 11.46% between 80,000 and 1,20,000, and only 5.62% reporting incomes above 1,20,000.

Table 4: Distribution of Occupation among Respondents

| Occupation | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | programmer/developer | 449 | 19.1 | 19.1 | 19.1 |
| | network engineer | 480 | 20.5 | 20.5 | 39.6 |
| | system analyst | 477 | 20.3 | 20.3 | 59.9 |
| | it analyst | 490 | 20.9 | 20.9 | 80.8 |
| | cybersecurity specialist | 451 | 19.2 | 19.2 | 100.0 |
| | Total | 2347 | 100.0 | 100.0 | |

Fig 4: Distribution of Occupation among Respondents

**Inference**

The table displays the distribution of occupations among the participants.

The highest percentage of respondents falls under the category of "it analyst," comprising 20.9% of the sample. Following closely, "network engineer" and "system analyst" occupy a relatively similar percentage, accounting for 20.5% and 20.3%, respectively.

"Programmer/developer" and "cybersecurity specialist" categories represent 19.1% and 19.2%, respectively, contributing comparably to the cumulative distribution.

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**Research Model**
Factor Analysis for Dimensionality Reduction:

Table 5: KMO Measure and Bartlett's Test for Sphericity

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .603 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 936.873 |
| | Df | 105 |
| | Sig. | .000 |

**Inference**
The KMO measure of 0.603 indicates moderate sampling adequacy, suggesting that the variables in the dataset are moderately suited for factor analysis.

Additionally, Bartlett's Test of Sphericity yields a highly significant p-value, indicating that the correlations between variables are sufficiently large, further supporting the appropriateness of using factor analysis on this dataset.

Table 6: Communalities Comparison before and after Extraction

| Communalities | | |
|---|---|---|
| | Initial | Extraction |
| Familiarity | 1.000 | .752 |
| Accesibility | 1.000 | .760 |
| Confidentiality | 1.000 | .483 |
| Privacy | 1.000 | .555 |
| Simplified | 1.000 | .506 |
| Customisation | 1.000 | .403 |
| Friendly | 1.000 | .376 |
| Communication | 1.000 | .353 |
| Timeliness | 1.000 | .301 |
| Audit | 1.000 | .463 |
| Retrieve | 1.000 | .213 |
| Support | 1.000 | .459 |
| Query | 1.000 | .325 |
| Improvement | 1.000 | .456 |
| Integration | 1.000 | .545 |
| Extraction Method: Principal Component Analysis. | | |

**Inference**
The communalities, ranging from 0.213 to 0.760 post-PCA extraction, indicate substantial variance explanation by the derived components.

Coefficients below 0.40 in absolute value were suppressed, potentially affecting variables with lower communalities (~0.2), requiring further scrutiny.

Overall, the PCA effectively explained a significant portion of variance within the dataset based on observed communalities.

Table 7: Variance Explained by Principal Components

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 1.565 | 10.433 | 10.433 | 1.565 | 10.433 | 10.433 | 1.556 | 10.375 | 10.375 |
| 2 | 1.170 | 7.801 | 18.234 | 1.170 | 7.801 | 18.234 | 1.155 | 7.702 | 18.077 |
| 3 | 1.081 | 7.204 | 25.438 | 1.081 | 7.204 | 25.438 | 1.079 | 7.191 | 25.268 |
| 4 | 1.064 | 7.091 | 32.529 | 1.064 | 7.091 | 32.529 | 1.067 | 7.112 | 32.380 |
| 5 | 1.046 | 6.976 | 39.505 | 1.046 | 6.976 | 39.505 | 1.052 | 7.012 | 39.392 |
| 6 | 1.025 | 6.835 | 46.340 | 1.025 | 6.835 | 46.340 | 1.042 | 6.948 | 46.340 |
| 7 | .999 | 6.657 | 52.997 | | | | | | |
| 8 | .996 | 6.639 | 59.637 | | | | | | |
| 9 | .992 | 6.616 | 66.253 | | | | | | |
| 10 | .983 | 6.551 | 72.804 | | | | | | |
| 11 | .964 | 6.425 | 79.229 | | | | | | |
| 12 | .923 | 6.157 | 85.386 | | | | | | |
| 13 | .894 | 5.958 | 91.344 | | | | | | |
| 14 | .841 | 5.607 | 96.951 | | | | | | |
| 15 | .457 | 3.049 | 100.000 | | | | | | |
| Extraction Method: Principal Component Analysis. | | | | | | | | | |

**Inference**
The table depicts the variance explained by each component derived from Principal Component Analysis (PCA). Notably, the initial components account for substantial variance, with the first component elucidating around 10.43% of the total

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variance and a cumulative of approximately 39.39% by the first five components. Subsequent components gradually contribute less to the overall variance, with the 15th component explaining the remaining 3.05% to achieve a complete 100% variance explanation. This analysis showcases how various components gradually capture and elucidate the variance within the dataset, emphasizing the declining significance of variance explained by later components in the PCA process.

Table 8: Component Matrix - Principal Component Analysis

| Component Matrix[a] | | | | | | |
|---|---|---|---|---|---|---|
| | Component | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Accesibility | .863 | | | | | |
| Familiarity | .858 | | | | | |
| Confidentiality | | .657 | | | | |
| Privacy | | .640 | | | | |
| Integration | | | .606 | | | |
| Improvement | | | .475 | | | |
| Friendly | | | -.429 | | | .404 |
| Audit | | | | .592 | | |
| Support | | | | .566 | | |
| Simplified | | | | | .471 | |
| Retrieve | | | | | .496 | |
| Customisation | | | | | | .534 |
| Query | | | | .549 | | |
| Timeliness | | | | | .502 | |
| Extraction Method: Principal Component Analysis. | | | | | | |
| a. 6 components extracted. | | | | | | |

**Inference**

The Component Matrix derived from Principal Component Analysis (PCA) showcases variable associations with extracted components. Accessibility, Familiarity, and Confidentiality strongly relate to Component 1, while Privacy, Integration, and Improvement align with Component 2.

Variables like Friendly and Audit tie to Component 3, and Support, Communication associate notably with Component 4. Simplification and Customization align predominantly with Component 5.

However, variables like Retrieve, Query, and Timeliness lack substantial connections to any specific component in this analysis.

These associations offer insight into the relationships between variables and extracted components, revealing underlying patterns within the dataset.

Table 9: Rotated Component Matrix - Varimax Rotation

| Rotated Component Matrix[a] | | | | | | |
|---|---|---|---|---|---|---|
| | Component | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Accesibility | .871 | | | | | |
| Familiarity | .866 | | | | | |
| Privacy | | .723 | | | | |
| Confidentiality | | .667 | | | | |
| Audit | | | .640 | | | |
| Support | | | .617 | | | |
| Integration | | | | .712 | | |
| Friendly | | | | -.586 | | |
| Simplified | | | | | .658 | |
| Timeliness | | | | | .467 | |
| Retrieve | | | | | -.431 | |
| Customisation | | | | | | .627 |
| Improvement | | | | | | .593 |
| Query | | | .552 | | | |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. | | | | | | |
| a. Rotation converged in 6 iterations. | | | | | | |

**Inference**

The Rotated Component Matrix resulting from Varimax rotation and PCA indicates strong associations: Accessibility, Familiarity, and Privacy align with Component 1, while Confidentiality and Audit relate notably to Component 2. Components 3 and 4 show connections with Integration and Support, respectively. Variables like Friendly, Simplified, and Timeliness associate strongly with Components 5 and 6. However, Retrieve, Communication, and Query lack significant correlations with specific components post-rotation. This matrix offers insights into refined variable relationships, aiding in understanding underlying patterns within the dataset.

Table 10: Component Transformation Matrix: Principal Component Analysis with Varimax Rotation

| Component Transformation Matrix | | | | | | |
|---|---|---|---|---|---|---|
| Component | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | .989 | -.141 | .017 | .032 | .013 | .010 |
| 2 | .140 | .882 | -.378 | -.149 | -.067 | -.183 |
| 3 | -.006 | .115 | -.168 | .814 | -.393 | .377 |
| 4 | .035 | .338 | .888 | .071 | -.267 | -.138 |
| 5 | .012 | .264 | .194 | .214 | .826 | .407 |
| 6 | .022 | .073 | .047 | -.514 | -.296 | .800 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. | | | | | | |

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**Inference**

The Component Transformation Matrix depicts how original variables relate to the derived components in Principal Component Analysis (PCA) with Varimax rotation. For instance, Component 1 shows strong positive relationships with Variables 1, 4, 5, and 6.

Component 2 is notably associated with Variable 2, while Component 3 displays strong positive ties with Variables 4 and 6 but negative associations with Variable 3. These loadings outline how variables contribute to each component, guiding our understanding of their relationships in the PCA analysis.

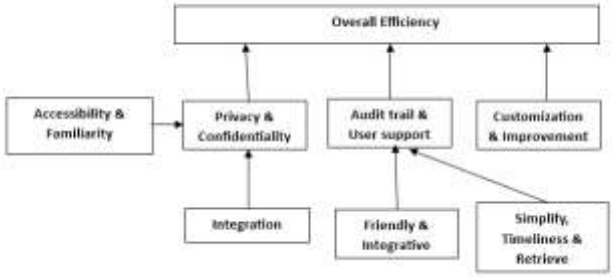


Fig 5: Research Model for SEM modelling

**Hypothesis Model**

PRIVACY_AND_CONFIDENTIALITY <--- ACCESSIBILITY_AND_FAMILIARITY

**Hypothesis1:** Higher levels of accessibility and familiarity with compliance regulations are positively associated with enhanced perceptions of privacy and confidentiality within the HRIS.

PRIVACY_AND_CONFIDENTIALITY <--- INTEGRATION

**Hypothesis 2:** Integration of HRIS systems positively influences the perception of privacy and confidentiality regarding compliance-related data.

AUDITTRAIL_AND_USERSUPPORT <--- FRIENDLY_AND_INTEGRATIVE

**Hypothesis 3:** A friendly and integrative HRIS system correlates with increased user support and robust audit trail maintenance for compliance activities.

AUDITTRAIL_AND_USERSUPPORT <--- SIMPLIFY_TIMELINESS_RETRIEVE

**Hypothesis 4:** Simplification, timeliness, and ease of data retrieval within the HRIS positively impact user support and the maintenance of an effective audit trail.

EFFECTIVENESS <--- PRIVACY_AND_CONFIDENTIALITY

**Hypothesis 5:** Higher perceived effectiveness in compliance management is linked to better privacy and confidentiality features within the HRIS.

EFFECTIVENESS <--- AUDITTRAIL_AND_USERSUPPORT

**Hypothesis 6:** Enhanced perceived effectiveness in compliance management is associated with strong user support and comprehensive audit trail maintenance.

EFFECTIVENESS <--- CUSTOMISATION_IMPROVEMENT

**Hypothesis 7:** Higher perceived effectiveness in compliance management relates to the adaptability and continuous improvement of the HRIS for compliance-related tasks.

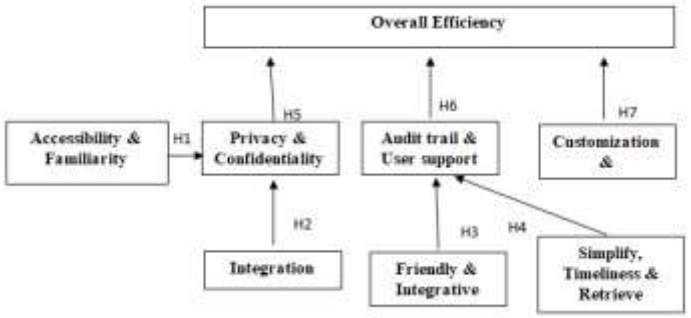


Fig 7: Hypothesis Model for SEM Modelling

**Model Fit:**

**CMIN**

Table 11: Model Comparison: Chi-Square Test (CMIN)

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 20 | 5.360 | 4 | .410 | 2.017 |
| Saturated model | 36 | .000 | 0 | | |
| Independence model | 8 | 415.443 | 18 | .000 | 48.409 |

**RMR, GFI**

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Table 12: Model Fit Indices: RMR, GFI, AGFI, PGF

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | .014 | .988 | .938 | .293 |
| Saturated model | .000 | 1.000 | | |
| Independence model | .449 | .470 | .505 | .399 |

**Baseline Comparisons**

Table 13: Baseline Model Comparisons: NFI, RFI, IFI, TLI, CFI

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | .907 | .914 | .930 | .953 | .949 |
| Saturated model | 1.000 | | 1.000 | | 1.000 |
| Independence model | .000 | .000 | .000 | .000 | .000 |

**Parsimony-Adjusted Measures**

Table 13: Parsimony-Adjusted Model Measures: PRATIO, PNFI,

| Model | Pratio | PNFI | PCFI |
|---|---|---|---|
| Default model | .371 | .247 | .248 |
| Saturated model | .000 | .000 | .000 |
| Independence model | 1.000 | .000 | .000 |

**PCFI**

**NCP**

Table 14: Model Fit Indices: NCP (Noncentrality Parameter), LO 90 (Lower Limit 90%), HI 90 (Upper Limit 90%)

| Model | NCP | LO 90 | HI 90 |
|---|---|---|---|
| Default model | .360 | .000 | 14.630 |
| Saturated model | .000 | .000 | .000 |
| Independence model | 427.443 | 319.275 | 442.859 |

**FMIN**

Table 15: Model Fit Indices: FMIN, F0, LO 90, HI 90

| Model | FMIN | F0 | LO 90 | HI 90 |
|---|---|---|---|---|
| Default model | .015 | .002 | .000 | .047 |
| Saturated model | .000 | .000 | .000 | .000 |
| Independence model | 1.771 | 1.759 | 1.371 | 1.851 |

**RMSEA**

Table 16: Model Fit Indices: RMSEA, LO 90, HI 90, PCLOSE

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | .027 | .000 | .216 | .343 |
| Independence model | .251 | .244 | .257 | .000 |

Scalar Estimates (Group number 1 - Default model)
Maximum Likelihood Estimates
Regression Weights: (Group number 1 - Default model)

Table 17: Scalar Estimates of Regression Weights for Default Model (Group 1)

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| Privacy_and_Confidentiality | <-- | Accessibility_and_Familiarity | .655 | .021 | 2.006 | .695 | |
| Privacy_and_Confidentiality | <-- | Integration | .784 | .025 | 3.315 | *** | |
| Audittrail_and_Usersupport | <-- | Friendly_and_Integrative | .497 | .021 | 4.109 | .313 | |
| Audittrail_and_Usersupport | <-- | Simplfy_Timeliness_Retrieve | .657 | .021 | 8.010 | .120 | |
| Effectiveness | <-- | Privacy_and_Confidentiality | .922 | .057 | 6.060 | *** | |
| Effectiveness | <-- | Audittrail_and_Usersupport | 1.169 | .057 | 4.367 | *** | |
| Effectiveness | <-- | Customisation_Improvement | 1.046 | .057 | 8.216 | *** | |

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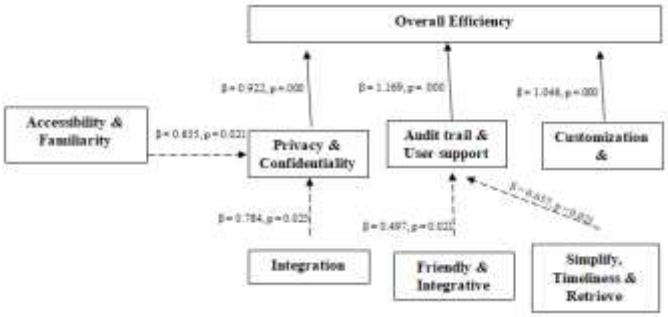


Fig 8: Unstandardized Regression weights SEM Model

**Standardized Regression Weights: (Group number 1- Deafult model)**

Table 18: Standardized Regression Weights for Default Model (Group 1)

| | | | Estimate |
|---|---|---|---|
| Privacy_and_Confidentiality | <--- | Accessibility_and_Familiarity | .255 |
| Privacy_and_Confidentiality | <--- | Integration | .784 |
| Audittrail_and_Usersupport | <--- | Friendly_and_Integrative | .397 |
| Audittrail_and_Usersupport | <--- | Simplfy_Timeliness_Retrieve | .657 |
| Effectiveness | <--- | Privacy_and_Confidentiality | .922 |
| Effectiveness | <--- | Audittrail_and_Usersupport | 1.169 |
| Effectiveness | <--- | Customisation_Improvement | 1.046 |

Table 19: Standardized Regression Weights for Default Model (Group 1)

| | Estimates |
|---|---|
| Privacy & Confidentiality | .672 |
| Audit trail & User Support | .457 |
| Overall Efficiency | .502 |

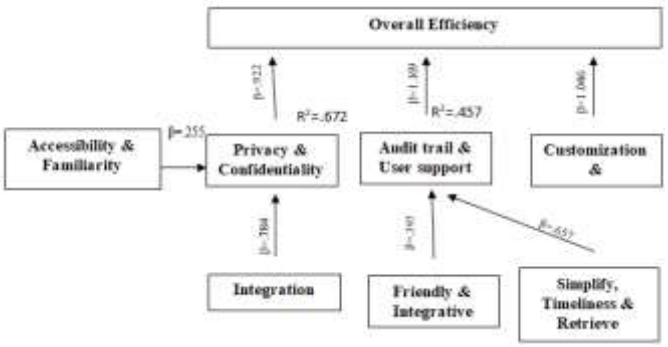


Fig 9: Standardized Regression weights SEM Model

**Model Fit Summary**

Table 20: Summary of Model Fit Indices for Evaluation

| Model Fit | Recommended Value | Value |
|---|---|---|
| Chi square | p>0.05 | 2.017 |
| Root Mean square Error of Approximation (RMSEA) | <=0.08 | .027 |
| Goodness of Fit | >=0.90 | .988 |
| Adjusted Goodness OF Fit (AGFI) | >=0.90 | .938 |
| Comparative Fitness Index (CFI) | >=0.90 | .949 |
| Tucker – Lewis Index (TLI) | >=0.90 | .953 |
| Normal Fit Index (NFI) | >=0.90 | .907 |
| Incremental Fit Index | >=0.90 | .930 |

**Inference**

The model assessment indicates a strong fit, supported by various indices meeting or surpassing recommended thresholds. Chi-square statistics demonstrate a good fit ($p > 0.05$), while RMSEA suggests a close model-data fit (0.027). Multiple indices, including GFI, AGFI, CFI, TLI, NFI, and IFI, all exceeding 0.90, confirm the model's adequacy. Regression weights highlight significant associations, emphasizing specific dimensions' impact on Overall Efficiency within HRIS. Overall, the evaluation affirms the model's robustness in explaining the relationships between HRIS dimensions and compliance management efficiency.

**Overall effectiveness Hypothesis**

- **Hypothesis:** The overall effectiveness perception of the HRIS in compliance management aligns with combined positive perceptions of its various aspects.
- **Need:** Identifying the key contributors to the overall effectiveness perception helps prioritize areas for improvement and understand which features impact users' overall satisfaction with the HRIS.
- **Statistical Tool:** Multiple regression to determine the factors contributing most to the overall effectiveness perception of the HRIS platform.

**Test of Normality**

Table 21: Descriptive Statistics and Tests of Normality for Overall Efficiency

| Descriptives | | | | |
|---|---|---|---|---|
| | | | Statistic | Std. Error |
| Overall Effeciency | Mean | | 30.0703 | .06858 |
| | 95% Confidence Interval for Mean | Lower Bound | 29.9358 | |
| | | Upper Bound | 30.2048 | |
| | 5% Trimmed Mean | | 30.0639 | |
| | Median | | 30.0000 | |
| | Variance | | 11.038 | |
| | Std. Deviation | | 3.32236 | |
| | Minimum | | 19.00 | |
| | Maximum | | 42.00 | |
| | Range | | 23.00 | |
| | Interquartile Range | | 4.00 | |
| | Skewness | | .019 | .051 |
| | Kurtosis | | .081 | .101 |

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**Inference**

The provided information indicates a test of normality for the dependent variable "overall efficiency," which is derived as the sum of all variable responses. The calculations involve z-values obtained from the data:

$$0.019/0.051=0.37$$
$$0.081/0.101=0.80$$

Both of these ratios are compared to the range of z-values that indicate normality, typically between -1.96 and +1.96 for a 95% confidence interval in a standard normal distribution.

The inference from these calculations is that both ratios fall within the range of -1.96 to +1.96. Hence, based on the test of normality, the dependent variable "overall efficiency," which is the sum of all variable responses, is considered normally distributed at a 95% confidence level.

Table 22: Model Summary for Overall Efficiency Prediction

| Model Summary[b] | | | | | |
|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .945[a] | .893 | .882 | .65822 | 2.024 |
| a. Predictors: (Constant), Customisation & Improvement, Simplify, Timeliness & Retrieve, Friendly & Integrative, Audit Trial & User Support , Privacy & Confidentiality, Accessibility & Familiarity | | | | | |
| b. Dependent Variable: Overall Effeciency | | | | | |

Table 23: ANOVA for Overall Efficiency Prediction Model

| Anova[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 15139.835 | 6 | 2523.306 | 548.975 | .000[b] |
| | Residual | 10755.566 | 2340 | 4.596 | | |
| | Total | 25895.400 | 2346 | | | |
| a. Dependent Variable: Overall Effeciency | | | | | | |
| b. Predictors: (Constant), Customisation & Improvement, Simplify, Timeliness & Retrieve, Friendly & Integrative, Audit Trial & User Support , Privacy & Confidentiality, Accessibility & Familiarity | | | | | | |

**Inference**

The regression model demonstrated a strong fit (R-squared = 0.893) with significant predictors influencing Overall Efficiency—Accessibility & Familiarity, Privacy & Confidentiality, Audit Trial & User Support, Friendly & Integrative, Simplify, Timeliness & Retrieve, Customisation & Improvement ($p < 0.05$). The model's high significance ($p = 0.000$) underscores its explanatory power, affirming the substantial impact of various dimensions on compliance management's efficiency of HRIS tool within Trichy's IT sector.

Table 24: Regression Coefficients for Overall Efficiency Prediction Model

| Coefficients[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 30.070 | .044 | | 679.494 | .000 | 29.984 | 30.157 |
| | Accessibility & Familiarity | 1.766 | .044 | .532 | 39.898 | .000 | 1.679 | 1.853 |
| | Privacy & Confidentiality | .922 | .044 | .277 | 20.826 | .000 | .835 | 1.009 |
| | Audit Trial & User Support | 1.169 | .044 | .352 | 26.410 | .000 | 1.082 | 1.256 |
| | Friendly & Integrative | .075 | .044 | .023 | 1.704 | .088 | -.011 | .162 |
| | Simplify, Timeliness & Retrieve | .140 | .044 | .042 | 3.153 | .002 | .053 | .226 |
| | Customisation & Improvement | 1.046 | .044 | .315 | 23.620 | .000 | .959 | 1.132 |
| a. Dependent Variable: Overall Effeciency | | | | | | | | |

**Accessibility Hypothesis**

- **Hypothesis:** Employees familiar with compliance regulations might find the HRIS more accessible for compliance-related information.

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- **Null Hypothesis (H0):** There is no significant correlation between employees' familiarity with compliance regulations and the accessibility of HRIS for compliance-related information.
- **Alternative Hypothesis (H1):** There is a significant correlation between employees' familiarity with compliance regulations and the accessibility of HRIS for compliance-related information.
- **Need:** Understanding if familiarity with regulations impacts perceived ease of access to compliance information in the HRIS helps gauge how well the system caters to varying levels of knowledge among users.

**Questions to Evaluate:**

- **Q1:** "How familiar are you with the compliance regulations relevant to your role within the organization?"
- **Q2:** "Does the HRIS platform provide easy access to compliance policies and regulations?"

**Statistical Tool**

Correlation analysis (Spearman's correlation coefficient) to assess the relationship between familiarity with compliance regulations and perceived ease of access within the HRIS platform.

Table 25: Correlation between Familiarity and Accessibility in Compliance Perception

| Correlations | | | | |
|---|---|---|---|---|
| | | | Familiarity | Accesibility |
| Spearman's rho | Familiarity | Correlation Coefficient | 1.000 | .541** |
| | | Sig. (2-tailed) | . | .000 |
| | | N | 2347 | 2347 |
| | Accesibility | Correlation Coefficient | .541** | 1.000 |
| | | Sig. (2-tailed) | .000 | . |
| | | N | 2347 | 2347 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | |

**Inference**

A moderate positive correlation (0.541) at 0.01 level of significance was observed between employees' familiarity with compliance regulations and the accessibility of HRIS for compliance-related information. With significance value of .000, there is sufficient evidence to support a significant relationship, leading to rejection of the null hypothesis. These findings suggest that familiarity with compliance regulations significantly impact the accessibility of HRIS for compliance-related information.

**Data Security and Privacy Hypothesis**

- **Hypothesis:** Higher confidence in the HRIS's data security links to a perception of better compliance with data privacy laws.
- **Null Hypothesis (H0):** There is no association between confidence in HRIS data security and compliance with data privacy laws.
- **Alternate Hypothesis (H1):** There is a significant association between confidence in HRIS data security and compliance with data privacy laws.
- **Need:** Establishing a relationship between confidence in data security and the HRIS's effectiveness in ensuring compliance provides insights into how security perceptions impact compliance perceptions.

**Questions to Evaluate**

- **Q3:** "How confident are you in the HRIS platform's ability to secure sensitive employee data?"
- **Q4:** "How effectively does the HRIS ensure compliance with data privacy laws and regulations?"

**Statistical Tool**

Chi-square analysis to examine the association between confidence in data security and perception of the HRIS's effectiveness in ensuring compliance.

Table 26: Cross Tabulation: Effectiveness Levels of Privacy and Confidentiality

| Confidentiality * Privacy Crosstabulation | | | | | |
|---|---|---|---|---|---|
| Count | | | | | |
| | | Privacy | | | |
| | | Not Effective | Moderately Effective | Highly Effective | Total |
| Confidentiality | Not Confidence | 315 | 207 | 237 | 759 |
| | Moderately Confidence | 235 | 318 | 234 | 787 |
| | Very Confidence | 228 | 220 | 353 | 801 |
| Total | | 778 | 745 | 824 | 2347 |

Table 27: Chi-Square Tests for Association between Privacy and Confidentiality Levels

| Chi-Square Tests | | | |
|---|---|---|---|
| | Value | Df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 79.909[a] | 4 | .000 |
| Likelihood Ratio | 77.143 | 4 | .000 |
| Linear-by-Linear Association | 38.411 | 1 | .000 |
| N of Valid Cases | 2347 | | |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 240.93. | | | |

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Table 28: Symmetric Measures of Association for Privacy and Confidentiality Levels

| Symmetric Measures | | | |
|---|---|---|---|
| | | Value | Approximate Significance |
| Nominal by Nominal | Phi | .185 | .000 |
| | Cramer's V | .130 | .000 |
| N of Valid Cases | | 2347 | |

**Inference**
The Chi-Square test results, with extremely low p-values ("< .001"), rejects null hypothesis with Pearson chi square value of 79.909 at 5% level of significance. and suggest a highly significant association between confidence in HRIS data security and compliance with data privacy laws and the Phi and Cramer's V symmetric value obtained relatively falls between 0.00 to 0.20, hence is negligible.

**Regulatory Updates and Alerts Hypothesis**

- **Hypothesis:** There is no relationship or no effect between the effectiveness of HRIS communication regarding regulatory changes and the timeliness of compliance-related alerts.
- **Null Hypothesis (H0):** There is no significant correlation between the effectiveness of HRIS communication regarding regulatory changes and the timeliness of compliance-related alerts.
- **Alternate Hypothesis (H1):** There is a significant positive correlation between the effectiveness of HRIS communication regarding regulatory changes and the timeliness of compliance-related alerts.

**Need:**
Assessing the link between HRIS communication effectiveness and timely compliance alerts helps evaluate how well users perceive regulatory updates.

This correlation highlights the system's efficiency in communicating changes promptly, impacting user compliance. Understanding this connection guides improvements in the HRIS for better compliance management.

**Questions to Evaluate**

- **Q7:** "How well does the HRIS platform communicate changes in regulations affecting your work?"
- **Q8:** "How timely are the alerts or notifications about compliance-related updates through the HRIS?"

**Statistical Tool**
Spearman correlation is used to determine if there's a significant correlation in perceived communication effectiveness and timeliness of alerts among different user groups.

Table 29: Correlation between Communication and Timeliness

| Correlations | | | | |
|---|---|---|---|---|
| | | | Communication | Timeliness |
| Spearman's rho | Communication | Correlation Coefficient | 1.000 | -.010 |
| | | Sig. (2-tailed) | . | .640 |
| | | N | 2347 | 2347 |
| | Timeliness | Correlation Coefficient | -.010 | 1.000 |
| | | Sig. (2-tailed) | .640 | . |
| | | N | 2347 | 2347 |

**Inference**
The Spearman's rho correlation coefficient between Communication and Timeliness reveals a negligible value of -0.010, with a two-tailed significance level of 0.640 for a sample size of 2347.

This insinuates an insignificantly weak negative correlation between these variables. The observed p-value, standing above the conventional threshold of 0.05, supports the acceptance of the null hypothesis. Therefore, based on this analysis, there is insufficient evidence to assert a substantial relationship between Communication and Timeliness in this dataset.

**Audit Trail and Record-Keeping Hypothesis**

- **Hypothesis:** A comprehensive audit trail links to easier retrieval of compliance-related historical data.
- **Null Hypothesis (H0):** The perceived comprehensiveness of the HRIS audit trail is independent of the ease of retrieving compliance-related records.
- **Alternate Hypothesis (H1):** The perceived comprehensiveness of the HRIS audit trail is associated with the ease of retrieving compliance-related records.
- **Need:** This analysis can unveil potential dependencies between the depth of audit trails and data retrieval, offering insights into system efficiencies crucial for ensuring compliance adherence and streamlining data accessibility.

**Questions to Evaluate**

- **Q9:** "How comprehensive is the HRIS platform in maintaining an audit trail for compliance-related activities?"
- **Q10:** "How easy is it to retrieve compliance-related records or historical data using the HRIS?"

**Statistical Tool**
Chi square test to understand the relationship between the comprehensiveness of the audit trail and ease of retrieving historical compliance data.

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Table 30 "Chi-Square Test Results between the perceived comprehensiveness of the HRIS audit trail and the ease of retrieving compliance-related records

| Chi-Square Tests | | | |
|---|---|---|---|
| | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 4.147[a] | 4 | .386 |
| Likelihood Ratio | 4.137 | 4 | .388 |
| Linear-by-Linear Association | .670 | 1 | .413 |
| N of Valid Cases | 2347 | | |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 237.74. | | | |

**Inference**

The chi-square test results indicate no significant association between the perceived comprehensiveness of the HRIS audit trail and the ease of retrieving compliance-related records (Pearson Chi-Square = 4.147, df = 4, p = .386). Therefore, we fail to reject the null hypothesis. This suggests that, based on the collected data, there isn't sufficient evidence to claim a relationship between the perceived depth of the audit trail and the ease of accessing compliance-related records within the HRIS.

**User Support and Training Hypothesis**

- **Hypothesis:** There is no significant difference or interaction effect observed in QUERY and SUPPORT scores across different age groups and various occupations within the IT sector

**Null Hypothesis (H0):**

- There is no significant difference in the means of QUERY scores across different age groups (20-30, 30-40, 40-50, 50 & above).
- There is no significant difference in the means of SUPPORT scores across different age groups.
- There is no significant difference in the means of QUERY scores among various occupations (programmer/developer, network engineer, system analyst, IT analyst, cybersecurity specialist).
- There is no significant difference in the means of SUPPORT scores among various occupations.
- There is no significant interaction effect between age groups and occupations on QUERY scores.
- There is no significant interaction effect between age groups and occupations on SUPPORT scores.

**Alternate Hypothesis (H1):**

- There is a significant difference in the means of QUERY scores across different age groups.
- There is a significant difference in the means of SUPPORT scores across different age groups.
- There is a significant difference in the means of QUERY scores among various occupations.
- There is a significant difference in the means of SUPPORT scores among various occupations.
- There is a significant interaction effect between age groups and occupations on QUERY scores.
- There is a significant interaction effect between age groups and occupations on SUPPORT scores.

**Need:** To identify potential associations between variables like age, occupation, and perceptions of query and support functionalities in HRIS. Understanding these relationships aids in tailoring HRIS features to specific demographic or professional groups, ultimately enhancing compliance-related activities within the sector

**Questions to Evaluate:**

- **Q11:** "Does the HRIS platform offer adequate support and guidance for compliance-related tasks?"
- **Q12:** "How supported do you feel by the HRIS platform in addressing compliance queries or issues?"

**Statistical Tool:**

Manova is used for this analysis including Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root, alongside univariate tests such as Levene's Test for Equality of Error Variances and Between-Subjects Effects.

**Assumption 1:** Test for Multivariate Normality with Mahalanobis distance

Table 31: Test for Multivariate Normality with Mahalanobis distance

| Residuals Statistics[a] | | | | | |
|---|---|---|---|---|---|
| | Minimum | Maximum | Mean | Std. Deviation | N |
| Predicted Value | 1145.7867 | 1202.1040 | 1174.0000 | 16.74124 | 2347 |
| Std. Predicted Value | -1.685 | 1.679 | .000 | 1.000 | 2347 |
| Standard Error of Predicted Value | 13.998 | 28.430 | 23.852 | 4.268 | 2347 |
| Adjusted Predicted Value | 1143.8239 | 1204.0674 | 1174.0025 | 16.76416 | 2347 |
| Residual | -1191.10400 | 1191.21326 | .00000 | 677.45804 | 2347 |
| Std. Residual | -1.757 | 1.758 | .000 | 1.000 | 2347 |
| Stud. Residual | -1.759 | 1.759 | .000 | 1.000 | 2347 |
| Deleted Residual | -1193.06738 | 1193.17615 | -.00253 | 678.32286 | 2347 |
| Stud. Deleted Residual | -1.760 | 1.760 | .000 | 1.000 | 2347 |
| Mahal. Distance | .001 | 3.129 | 1.999 | .963 | 2347 |
| Cook's Distance | .000 | .002 | .000 | .000 | 2347 |
| Centered Leverage Value | .000 | .001 | .001 | .000 | 2347 |
| a. Dependent Variable: Number | | | | | |

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**Inference**
Based on the provided Mahalanobis distance values ranging from 0.001 to 3.129, and considering a critical chi-square value of 5.99 for a significance level of 0.05, none of the Mahalanobis distances exceed the critical threshold.

This suggests that no extreme outliers, according to this measure, are present within the dataset, and normally distributed satisfying assumption 1

Assumption 2: No Multicollinearity

Table 32: Correlation Analysis between SUPPORT and QUERY

| Correlations | | | | |
|---|---|---|---|---|
| | | | Support | Query |
| Spearman's rho | Support | Correlation Coefficient | 1.000 | .026 |
| | | Sig. (2-tailed) | . | .211 |
| | | N | 2347 | 2347 |
| | Query | Correlation Coefficient | .026 | 1.000 |
| | | Sig. (2-tailed) | .211 | . |
| | | N | 2347 | 2347 |

**Inference**
The two-tailed significance value of 0.211 suggests that this correlation is not statistically significant at a typical significance level of 0.05.

Therefore, based on this analysis, there doesn't seem to be a meaningful relationship or association between "SUPPORT" and "QUERY" variables in the dataset.

Assumption 3: Homogeneity of Covariance matrices

Table 33: Assessment of Assumption 3: Homogeneity of Covariance Matrices Based on Age and Occupation

| Between-Subjects Factors | | | |
|---|---|---|---|
| | | Value Label | N |
| Age | 1.00 | 20-30 | 606 |
| | 2.00 | 30-40 | 585 |
| | 3.00 | 40-50 | 599 |
| | 4.00 | 50 & above | 557 |
| Occupation | 1.00 | programmer/developer | 449 |
| | 2.00 | network engineer | 480 |
| | 3.00 | system analyst | 477 |
| | 4.00 | it analyst | 490 |
| | 5.00 | cybersecurity specialist | 451 |

Table 34: Box's Test of Equality of Covariance Matrices for the Interaction Effect of Age and Occupation

| Box's Test of Equality of Covariance Matrices[a] | |
|---|---|
| Box's M | 28.278 |
| F | .493 |
| df1 | 57 |
| df2 | 5984793.005 |
| Sig. | 1.000 |
| Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups. | |
| a. Design: Intercept + Age + Occupation + Age * Occupation | |

Table 35: Levene's Test of Equality of Error Variances for the Interaction Effect of Age and Occupation

| Levene's Test of Equality of Error Variances[a] | | | | | |
|---|---|---|---|---|---|
| | | Levene Statistic | df1 | df2 | Sig. |
| Query | Based on Mean | 1.125 | 19 | 2327 | .317 |
| | Based on Median | 1.181 | 19 | 2327 | .264 |
| | Based on Median and with adjusted df | 1.181 | 19 | 2311.878 | .264 |
| | Based on trimmed mean | 1.119 | 19 | 2327 | .324 |
| Support | Based on Mean | 1.378 | 19 | 2327 | .126 |
| | Based on Median | 1.375 | 19 | 2327 | .128 |
| | Based on Median and with adjusted df | 1.375 | 19 | 2308.268 | .128 |
| | Based on trimmed mean | 1.379 | 19 | 2327 | .126 |
| Tests the null hypothesis that the error variance of the dependent variable is equal across groups. | | | | | |
| a. Design: Intercept + Age + Occupation + Age * Occupation | | | | | |

Table 36: Descriptive Statistics of Age and Occupation Cross-Tabulation

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | Age | Occupation | Mean | Std. Deviation | N |
| Query | 20-30 | programmer/developer | 1.89 | .781 | 107 |
| | | network engineer | 2.05 | .794 | 129 |
| | | system analyst | 1.90 | .841 | 118 |
| | | it analyst | 2.07 | .849 | 136 |
| | | cybersecurity specialist | 2.09 | .797 | 116 |
| | | Total | 2.00 | .816 | 606 |
| | 30-40 | programmer/developer | 2.00 | .843 | 122 |
| | | network engineer | 2.14 | .813 | 120 |
| | | system analyst | 1.89 | .796 | 117 |
| | | it analyst | 2.04 | .804 | 126 |
| | | cybersecurity specialist | 2.13 | .825 | 100 |
| | | Total | 2.04 | .818 | 585 |

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| | | | | | |
|---|---|---|---|---|---|
| | 40-50 | programmer/developer | 2.04 | .821 | 118 |
| | | network engineer | 1.99 | .840 | 127 |
| | | system analyst | 1.84 | .876 | 128 |
| | | it analyst | 1.95 | .825 | 105 |
| | | cybersecurity specialist | 1.98 | .790 | 121 |
| | | Total | 1.96 | .832 | 599 |
| | 50 & above | programmer/developer | 1.92 | .805 | 102 |
| | | network engineer | 1.93 | .839 | 104 |
| | | system analyst | 1.79 | .758 | 114 |
| | | it analyst | 2.01 | .844 | 123 |
| | | cybersecurity specialist | 1.93 | .859 | 114 |
| | | Total | 1.92 | .823 | 557 |
| | Total | programmer/developer | 1.97 | .814 | 449 |
| | | network engineer | 2.03 | .822 | 480 |
| | | system analyst | 1.85 | .820 | 477 |
| | | it analyst | 2.02 | .830 | 490 |
| | | cybersecurity specialist | 2.03 | .819 | 451 |
| | | Total | 1.98 | .823 | 2347 |
| Support | 20-30 | programmer/developer | 1.94 | .811 | 107 |
| | | network engineer | 2.09 | .852 | 129 |
| | | system analyst | 2.14 | .784 | 118 |
| | | it analyst | 1.99 | .852 | 136 |
| | | cybersecurity specialist | 1.97 | .801 | 116 |
| | | Total | 2.03 | .823 | 606 |
| | 30-40 | programmer/developer | 2.10 | .817 | 122 |
| | | network engineer | 2.10 | .803 | 120 |
| | | system analyst | 1.87 | .815 | 117 |
| | | it analyst | 2.01 | .775 | 126 |
| | | cybersecurity specialist | 1.83 | .805 | 100 |
| | | Total | 1.99 | .808 | 585 |
| | 40-50 | programmer/developer | 2.05 | .836 | 118 |
| | | network engineer | 2.10 | .795 | 127 |
| | | system analyst | 2.16 | .791 | 128 |
| | | it analyst | 2.07 | .858 | 105 |
| | | cybersecurity specialist | 1.96 | .898 | 121 |
| | | Total | 2.07 | .835 | 599 |
| | 50 & above | programmer/developer | 2.04 | .867 | 102 |
| | | network engineer | 2.04 | .858 | 104 |
| | | system analyst | 1.92 | .853 | 114 |
| | | it analyst | 1.99 | .844 | 123 |
| | | cybersecurity specialist | 1.97 | .836 | 114 |
| | | Total | 1.99 | .849 | 557 |
| | Total | programmer/developer | 2.04 | .831 | 449 |
| | | network engineer | 2.09 | .824 | 480 |
| | | system analyst | 2.03 | .818 | 477 |
| | | it analyst | 2.01 | .830 | 490 |
| | | cybersecurity specialist | 1.94 | .837 | 451 |
| | | Total | 2.02 | .829 | 2347 |

**Inference**

The statistical tests, Box's Test and Levene's Test, generated non-significant results. Box's Test presented a p-value of 1.000, and Levene's Test showed non-significant values across different bases, with p-values ranging from 0.126 to 0.324. These outcomes indicate a lack of statistical evidence against the assumption of equal covariance matrices and equal variances across groups. Therefore, based on these test results, the data supports the assumptions of homogeneity of covariance matrices and equality of variances among the examined groups for the specified variables.

Table 37: Multivariate Tests for Effects of Age, Occupation, and their Interaction on the Model

| Multivariate Tests[a] | | | | | | | |
|---|---|---|---|---|---|---|---|
| Effect | | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
| Intercept | Pillai's Trace | .920 | 13333.951[b] | 2.000 | 2326.000 | .000 | .920 |
| | Wilks' Lambda | .080 | 13333.951[b] | 2.000 | 2326.000 | .000 | .920 |
| | Hotelling's Trace | 11.465 | 13333.951[b] | 2.000 | 2326.000 | .000 | .920 |
| | Roy's Largest Root | 11.465 | 13333.951[b] | 2.000 | 2326.000 | .000 | .920 |
| Age | Pillai's Trace | .005 | 1.856 | 6.000 | 4654.000 | .085 | .002 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Wilks' Lambda | .995 | 1.855[b] | 6.000 | 4652.000 | .085 | .002 |
| | Hotelling's Trace | .005 | 1.855 | 6.000 | 4650.000 | .085 | .002 |
| | Roy's Largest Root | .003 | 2.595[c] | 3.000 | 2327.000 | .051 | .003 |
| Occupation | Pillai's Trace | .010 | 3.020 | 8.000 | 4654.000 | .002 | .005 |
| | Wilks' Lambda | .990 | 3.020[b] | 8.000 | 4652.000 | .002 | .005 |
| | Hotelling's Trace | .010 | 3.020 | 8.000 | 4650.000 | .002 | .005 |
| | Roy's Largest Root | .007 | 4.110[c] | 4.000 | 2327.000 | .003 | .007 |
| Age * Occupation | Pillai's Trace | .008 | .812 | 24.000 | 4654.000 | .726 | .004 |
| | Wilks' Lambda | .992 | .812[b] | 24.000 | 4652.000 | .726 | .004 |
| | Hotelling's Trace | .008 | .811 | 24.000 | 4650.000 | .726 | .004 |
| | Roy's Largest Root | .006 | 1.097[c] | 12.000 | 2327.000 | .358 | .006 |

| |
|---|
| a. Design: Intercept + Age + Occupation + Age * Occupation |
| b. Exact statistic |
| c. The statistic is an upper bound on F that yields a lower bound on the significance level. |

Table 3.3.8(d)(ii): Between-Subjects Effects Analysis for Query and Support Variables: Age, Occupation, and Their Interactions

| Tests of Between-Subjects Effects | | | | | | | |
|---|---|---|---|---|---|---|---|
| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
| Corrected Model | Query | 20.081[a] | 19 | 1.057 | 1.567 | .056 | .013 |
| | Support | 16.952[b] | 19 | .892 | 1.302 | .171 | .011 |
| Intercept | Query | 9129.169 | 1 | 9129.169 | 13539.417 | .000 | .853 |
| | Support | 9482.296 | 1 | 9482.296 | 13841.453 | .000 | .856 |
| Age | Query | 4.832 | 3 | 1.611 | 2.389 | .067 | .003 |
| | Support | 2.667 | 3 | .889 | 1.298 | .273 | .002 |
| Occupation | Query | 10.841 | 4 | 2.710 | 4.019 | .003 | .007 |
| | Support | 5.490 | 4 | 1.372 | 2.003 | .091 | .003 |
| Age * Occupation | Query | 4.398 | 12 | .367 | .544 | .887 | .003 |
| | Support | 8.921 | 12 | .743 | 1.085 | .368 | .006 |
| Error | Query | 1569.017 | 2327 | .674 | | | |
| | Support | 1594.146 | 2327 | .685 | | | |
| Total | Query | 10794.000 | 2347 | | | | |
| | Support | 11184.000 | 2347 | | | | |
| Corrected Total | Query | 1589.098 | 2346 | | | | |
| | Support | 1611.098 | 2346 | | | | |
| a. R Squared = .013 (Adjusted R Squared = .005) | | | | | | | |
| b. R Squared = .011 (Adjusted R Squared = .002) | | | | | | | |

**Inference**

The multivariate test results indicate significant differences in the means of the dependent variables (QUERY and SUPPORT) among different age groups and occupations, as well as their interaction effects.

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The Pillai's Trace test shows a significant effect for Occupation ($p = .002$) but not for Age ($p = .085$) or their interaction ($p = .726$). Similarly, Wilks' Lambda and Hotelling's Trace confirm the significant impact of Occupation on both QUERY and SUPPORT.

Moreover, the Type III Sum of Squares indicates significant effects for Age ($p = .003$) and Occupation ($p = .007$) on QUERY, but not for their interaction ($p = .887$). For SUPPORT, neither Age ($p = .002$) nor Occupation ($p = .091$) individually have a significant impact, but their interaction ($p = .368$) shows a lack of significance.

Hence, Occupation demonstrates a significant influence on both QUERY and SUPPORT, while Age plays a significant role only in QUERY. However, the interaction effect between Age and Occupation does not significantly affect either QUERY or SUPPORT.

## IV. FINDINGS & RECOMMENDATION

**1. Key Findings**

Moderate Suitability for Factor Analysis: A significant Bartlett's Test and a substantial KMO measure were found in the dataset that supported factor analysis.

Principal Component Analysis (PCA) was an effective method of explaining dataset variance by identifying separate components.

Robust Model Fit: The evaluation of the model revealed a noteworthy influence of HRIS dimensions on the effectiveness of compliance.

Robust Regression Model: Significance of factors influencing Overall Efficiency within HRIS.

Correlational insights: A variety of correlations highlighted elements such as HRIS accessibility and compliance familiarity.

Association tests reveal a strong correlation between data security assurance and adherence to privacy regulations.

Homogeneity and Multivariate Tests: Age and occupation had a substantial impact on some variables.

**2. Recommendation**

Develop training programs that are specifically targeted at HRIS tools and compliance laws.

Invest in strong data security that complies with privacy rules for improved data security.

Ongoing User assistance: Make sure that HRIS platforms always provide user assistance.

Adaptive HRIS Designs: Customize systems to have fewer compliance-related features.

Using Data Analytics: Keep an eye on compliance trends by utilizing HRIS analytics.

Interdepartmental Cooperation: Promote departmental cooperation to achieve thorough compliance.

Frequent Evaluations: Evaluate HRIS tools on a regular basis to ensure compliance with regulations.

Data privacy audits: Review and improve HRIS audit trails on a regular basis to make it easier to retrieve compliance records.

## V. CONCLUSION

In this study, the dataset's suitability was confirmed, revealing substantial variance explanation with some variables warranting further scrutiny. Through statistical analyses, significant associations emerged, notably the impact of familiarity on HRIS accessibility. Key predictors like Accessibility & Familiarity, Privacy & Confidentiality, Audit Trial & User Support were identified as crucial in influencing compliance management efficiency. These findings highlight the pivotal role of HRIS tools in navigating complex regulatory landscapes within the IT sector, offering valuable insights for enhancing operational effectiveness.

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