Strategic Dynamics, Resources, Constraints, and Information Management: An Integrated Approach for Digital and Technological Organizational Assets

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Abstract

In the present world, several industries, including in the robotics sector, have been undergoing dramatic technological change. For this reason, analyzing this industry's digital and technological assets by focusing on information management practices is a big deal. Considering this theme, the current research focuses on the role of strategic dynamics, constraints, and resources in determining information management practices regarding information accessibility and information quality. The study develops a structured questionnaire using past literature on Strategic Dynamics, Constraints, Resources, and Information Management Practices. A sample of 411 respondents participated in this study. Data was collected through a questionnaire and analyzed using descriptive statistics in the first step, followed by testing the measurement model with the help of reliability and discriminant validity. The results reveal that the latent variables, such as Strategic Dynamics, Constraints, Resources, and Information Management Practices, are well-measured using proxies from past literature. The findings through the structural equation modeling technique show that constraints have their significant impact on Information Quality. Moreover, organizational resources tend to boost Information Management Practices regarding Information Accessibility and Information Quality. Besides, the Strategic Dynamics only promote the Information Quality for better Information Management Practices in the robotic industry of China.

Keywords

Strategic Dynamics, Resources, Information Management, Information Quality, Information Accessibility.

1. Introduction

Owing to globalization and technological advancement, a new trend of information management system integrated with digitalization and electronic tools has directly or indirectly affected the operations of modern-day business organizations. There are several dimensions of this modern-day information management system, which stands out with its best practices such as information quality and information accessibility. The concept of information quality refers to competence, relevance, timeliness and utility of the performance linked with the information which can be used as a basis for decision making (**Wright; Taylor**, 2005; **Biehal; Chakravarti**, 1983). It is a measure of how valuable information is to the user, and how it helps people to make better decisions as poor-quality information can result in mistakes. On the other hand, information accessibility refers to the ease and

convenience with which people can find and use information, particularly those with disabilities (**Li *et al.***, 2024). For this reason, it is inferred that while managing organizational information the concepts of information quality and accessibility are crucial factors.

Several strategic dynamics enablers are prevailing in literature to achieve better management of information. These dynamics are also known as key enablers for developing and delivering digital organizational assets (**Celoza**, 2024). For instance, a culture of collaboration and team integration could be seen in strategic dimension that could make project teams to work together. Likewise, employee engagement can be a strategic initiative and a key component for enabling good information practices (**Hellmundt; Baker**, 2017). A strategic collaboration between different functional units can also result in good communication practices. Hence, communication and collaboration along with teamwork can act as enablers for strategic dynamics (**Rambaldi *et al.***, 2006).

Organizational resources (both tangible and intangible) are essential for managing information effectively (**Turulja; Bajgoric**, 2018; **Abualoush *et al.***, 2018). These resources act as the backbone for handling, effectively storing and sharing data. For instance, manpower resources are skilled experts who tend to contribute to an organization's success (**Rousseau; Stouten**, 2024). Additionally, technology resources, like software and IT systems, make it easy to store, find, and automate data processes, making information readily available when needed (**Kovach; Cathcart**, 1999; **Hu *et al.***, 2014); financial resources, as well, allow organizations to invest in better tools and training for information management. On the other side, intangible resources like those entitled with knowledge management practices within the organization facilitate good decision-making while building an environment of innovation (**Abbas; Sağsan**, 2019). The combination of these organizational resources can provide better strategic directions and consistent information management practices to build a strong information management system.

In spite of the presence of organization resources, there are also constraints which can directly disturb information management practices. These constraints can also be entitled as behavioral barriers which are primary linked with behavioral dimensions of individuals, managers and other decision makers within the organization. Eventually, these constraints transform into informational barriers that affect the process of building a good information management system. These organizational constraints may also be an outcome of a weak organizational structure and absence of structured information analysis network in an organization leading to miscommunication to act as growth constraints (**Evgeniou; Cartwright**, 2005).

There is no dearth of studies on information management practices and the role of information accessibility and information quality to boost those practices. However, not much attention has been paid on how strategic dynamics can be utilized as good information management practices and how to prevent organizational resources to act as constraints in determining information management practices. The current study aims to fill this research gap and contribute to this domain by examining how constraints or barriers significantly impact information quality and information accessibility and how organizational resources can boost information management practices. The study also highlights the importance of strategic dynamics promoting information quality and information accessibility for better information management practices in the robotic industry of China. An underlying implication of the present study is for managers and policy makers to benefit from its findings and draw insights drawn from market research and decision science principles.

2. Literature Review and Model

The robotics industry in China is growing rapidly, while making it a global leader in automation. In 2023, the country produced over 430,000 industrial robots, marking the second year in a row with output exceeding 400,000 units (**Li**, 2024). This increased level of production regarding the industrial robots boosted China's robotic industry to 470 units per 10,000 employees. This achievement has put China ahead of Germany and Japan, ranking it third globally after South Korea and Singapore (**Ann**, 2024). The robotic industry is expected to keep expanding, with projected revenues of $8.47 billion in 2024 and an annual growth rate of 10.45% through 2029 (**Statista**, 2024). Moreover, the stated growth of the industry has highlighted China's dedication towards adopting some advanced robotics to improve manufacturing efficiency and tackle labor shortages as well.

The given concepts of information quality and information accessibility are very important for understanding in terms of how the users perceive the value of an e-system (**Chang**, 2013; **Zwain**, 2019). In the available literature, studies consider the concept of information quality with the prime focus on specific areas like learning management systems (**Mtani; Mbelwa**, 2022), e-tax systems (**Qiao**, 2024), and e-learning systems (**Lwoga**, 2014). Information quality is defined as information free from bias (**Chang**, 2013), complete, relevant, user-targeted and cost beneficial (**Maltz**, 2000), and authoritative and reliable (**Eppler**, 2006). Information accessibility refers to both availability and affordability (**Kong *et al.***, 2022), making use of accessible technology designed for people with different abilities and disabilities (**Li *et al.***, 2024) and which could provide multi-lingual as well as audio-visual transcripts for ease of use (**Yi *et al.***, 2023). Moreover, with the growing advancement of technological innovations, the use of artificial intelligence in different fields and industries has enabled information accessibility to all end users (**Ahmed *et al.***, 2022). Research studies have focused on the implication of artificial intelligence in dealing with both information quality and information accessibility to build a

strong information management system (**Moreira Nascimento *et al.***, 2018).

The idea of strategic dynamics refers to the set of processes, actions and interaction through which organizations aim to achieve its strategic objectives. The existing body of literature utilizes the term key enablers to reflect such strategic practices and policies that help achieve organizational long-term objectives. In a recent study, **Celoza** (2024) provides a remarkable debate about several strategic key enablers which are found integrated towards the development and delivery of organizational digital assets which is collectively known as information management practices. The strategic dynamics or key enablers are included in these assets and are not limited to culture of collaboration, integrated team, early engagement, process or guidelines, communication, defining clear goals, team colocation, and documented process (**Celoza**, 2024). These sets of strategic dynamics are widely investigated both in the current and the past studies. For example, the effect of communication on information quality, one of the key indicators of strategic dynamics, has been investigated by **Maltz** (2000). By collecting the data from 504 nonmarketing mangers, the author claims that the nexus between communication and information quality is non-linear in nature. A collaborative organizational culture significantly enhances information quality by fostering open communication, trust, and shared goals among team members (**Liang *et al.***, 2016). Such an environment encourages the free exchange of ideas and knowledge, leading to more accurate, comprehensive, and reliable information (**Choo**, 2002).

In addition, past studies also signify the relationship between information management and constraints linked to it. For example, **Evgeniou and Cartwright** (2005) highlight the growth in the amount of data and organizations' "failure" to effectively leverage such information assets, sometimes referred to as "information intelligence," as potential constraints to information management and key barriers to successfully utilize and gain value from information. **Haug and Stentoft Arlbjørn** (2011) conducted a primary data study on 90 Danish companies and examined obstacles or constraints in data quality, which results in lack of delegation of responsibilities and making substantial impact on information quality. **Celoza** (2024) also pointed out several constraints in information processes and practices, which are sometimes in the form of legal and contract issues, unclear value, lack of standards and structure, team fragmentation, unclear roles and responsibilities, and misalignment on data requirements. These constraints have their major role towards information management of digital assets, their development and delivery perspectives.

Organizational resources play a key role in ensuring effective information management practices. Resources like infrastructure, technology, and skilled personnel are vital for efficiently gathering, processing, and utilizing information (**Duncan**, 1995; **Jou; Kao**, 2002). Strong resources improve an organization's ability to handle information, leading to better results (**Bharadwaj**, 2000). **Nguyen *et al.*** (2016) point out having sufficient resources crucial for successfully implementing information management systems. **Mitre-Hernández *et al.*** (2015) emphasize that strategic and technological resources are essential for enhancing information processes. **Agu** (2017) adds that aligning resources with information management goals ensures smooth operations. All these studies show how organizational resources are fundamental to effective information management.

Based on extant literature, the study developed the framework as shown in Figure 1.

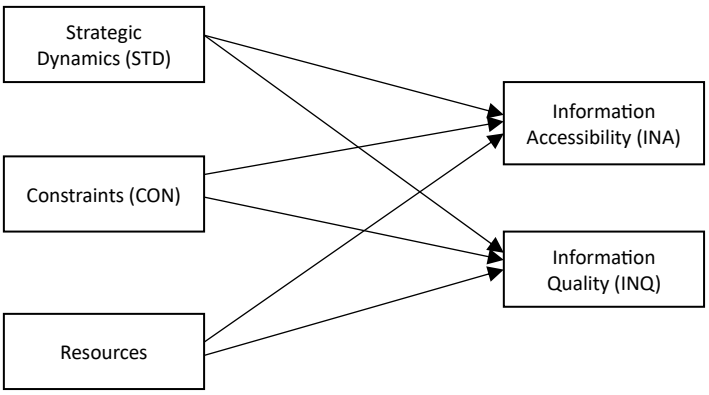

Figure 1: Framework of the Study.

This study covers the role of strategic dynamics, constraints, and resources as key independent variables. On the other side of the given framework, information accessibility, and information quality for which the changes have been explored. The given model has been found as one of the initial contributions in the field of information management practices when account for the information accessibility and information quality when determined by the strategic dynamics, organizational resources, and constraints. A detailed review of the past studies shows that none of the past studies have investigate such model specifically from the context of the robotic industry of China.

3. Material and Methods

The research model (Figure 1) of this study comprises multiple dependent variables entitled information accessibility

and information quality to reflect the title of information management practices. The other key variables include the strategic dynamics, constraints and resources having role as independent variables for which the measurement proxies are given in Table 1. This research elucidates how the set of organizational resources, strategic dynamics, and key constraints determine both the information accessibility and information quality. The measurement of the study variables is based on the items as given in Table 1 and Table 2 for the development of the structural questionnaire. Once the questionnaire was developed, it was distributed among the managers linked with the robotic industry of China. These respondents included IT Managers, Data Managers, Information Management Officers, Operations Managers, Project Managers in Robotics, R&D Personnel, and members from the Senior Management of the similar industry. During the time period of 5.3 weeks, 564 questionnaires were distributed among the respondents sampled from the robotic industry of China. Out of the total distributed questionnaires, 519 copies were returned, and further investigation confirmed that 108 questionnaires were either filled through invalid responses or with no valid responses, respectively. Therefore, the final valid sample of this research was achieved at 411.

The methodological context of this research encompasses the discussion about descriptive statistics (Table 2) which provides the layout of the data. This involves the implication of variance inflation factor which is a primary technique to check for collinearity and related issues between variables (**Thompson *et al.***, 2017; **Kyriazos; Poga**, 2023; **Ebiwonjumi *et al.***, 2023). The detailed description of applied VIF and findings are given in Table 3. The study also measured the reliability and convergent validity by using the Smart PLS software. The given software was found as reliable enough in generating the Cronbach's alpha values, composite reliability and average variance extracted or AVE. The reliability of the variables was investigated by checking the empirical findings in terms of alpha values and composite reliability as suggested by **Bell *et al.*** (2024), while AVE helps to reflect the convergent validity (**Cheung *et al.***, 2024). In Table 4 and 5 under estimation section, the discriminant validity was examined through HTMT ratio and Fornell-Larcker output for which literature shows good support (**Dirgiatmo**, 2023). Moreover, Figure 2 shows the factor loadings which is another measure of discriminant validity. By the end of empirical estimations, the study examined the relationship between key dimensions of information management practices, strategic dynamics, organizational resources, and constraints with the help of structural equation modelling technique. This technique is most up-to-mark in its nature while examining the relationships between set of explanatory and outcome variables. The SEM technique was applied using the Smart PLS bootstrap option.

Table 1: Study Variables, their Nature and Measurement.

Variable	Nature	Measurement
Strategic Dynamics (STD)	IV1	Statements considered as shown In Table 2. Measurement is 1-5, strongly disagree to strongly agree.
Constraints (CON)	IV2	Statements considered as shown In Table 2. Measurement is 1-5, strongly disagree to strongly agree.
Resource (RES)	IV3	Statements considered as shown In Table 2. Measurement is 1-5, strongly disagree to strongly agree.
Information Management Practices (IMP)	DV with Two Proxies	Information Quality (INQ) (**Eppler**, 2006): • The information provided by the system is accurate. [scale =1 2 3 4 5 or strongly disagree to strongly agree] • Information is up-to-date and relevant to my needs. [1 2 3 4 5 or strongly disagree to strongly agree]. • Information is consistent and reliable across different sources. [1 2 3 4 5 or strongly disagree to strongly agree]. **2.** Information Accessibility (INA) (**Choo**, 2002): • It is easy to access the information I need. [1 2 3 4 5 or strongly disagree to strongly agree] • The system provides flexible search options for various needs. [1 2 3 4 5 or strongly disagree to strongly agree]. • Resources or support are available to help locate required information. [1 2 3 4 5 or strongly disagree to strongly agree].

4. Results and Discussion

Right at the outset descriptive scores were measured, showing the average values for each of the selected item, followed by the scale minimum and scale maximum, standard deviation, kurtosis, and skewness. It is important to note that the mean values are beneficial in checking the central or mid points of the received responses. As per the given scores in Table 2, STD1 has a mean value of 3.986, followed by 4.032, 4.707, 4.005, 3.995, 3.936, 3.904, and 4.739 for the STD2 to STD8. These scores suggest that more or less, all the items of Strategic Dynamics (STD) are approaching to fourth point on the Likert scale which indicates agreed status from the respondents. However, these items have also a lower standard deviation, where the highest score is 0.690 which belongs to STD8.

Moreover, the trends in the mean values for the key constraints were found as 3.97, 3.906, 3.968, 3.954, 3.977, and 3.938, reflecting that the highest mean value is linked with the CON5, followed by the CON4, respectively. As these values are approaching to 4.0, therefore, it is inferred that the respondents, on average, have their agreed level on the five-point Likert scale of measurement. For the resource items, the mean values are 4.789, 4.769, and 3.895, respectively. These values show that for the first two items, the values are above 4, whereas for the third item, the value is less than 4 but approaching to it. Moreover, for the items entitled INQ1, INQ2, and INQ3, the study has found the values as 3.904, 3.924, and 3.826. Additionally, the items for the INA1, INA2, and INA3 show the average trend as 3.84, 3.86, and 4.721. It has been stated that the given items for the variables have their standard deviation as less than 1, however, the excess kurtosis and skewness somehow reflect abnormal distribution of the data. It is important to note that Smart PLS has an ability to deal with the non-normal data, while generating reliable results for suggesting policy implications. Table 2 presents the descriptive scores.

Table 2: Descriptive Statistics.

Statements Being Considered	Items Title	Mean	Scale min	Scale max	SD	Excess Kurtosis	Skewness
Culture of Collaboration	STD1	3.986	2	5	0.317	12.349	-1.167
Integrated Team	STD2	4.032	2	5	0.399	5.585	-0.17
Early Engagement	STD3	4.707	2	5	0.521	3.407	-1.77
Process or Guidelines	STD4	4.005	2	5	0.345	9.439	-0.6
Communication	STD5	3.995	2	5	0.371	8.727	-0.866
Defining Clear Goals	STD6	3.936	2	5	0.474	6.141	-1.487
Team Colocation	STD7	3.904	1	5	0.383	14.996	-3.164
Documented Process	STD8	4.739	1	5	0.69	7.783	-2.828
Legal and Contract Issues	CON1	3.97	1	5	0.455	7.974	-1.287
Unclear Value	CON2	3.906	1	5	0.481	12.198	-2.601
Lack of Standards and Structure	CON3	3.968	1	5	0.491	8.391	-1.467
Team Fragmentation	CON4	3.954	1	5	0.441	14.323	-2.466
Unclear Roles and Responsibilities	CON5	3.977	1	5	0.443	8.366	-1.218
Misalignment on Data Requirements	CON6	3.938	1	5	0.387	14.583	-2.494
Technological resources	RES1	4.789	1	5	0.602	9.006	-3.021
Human resources	RES2	4.769	1	5	0.585	9.912	-2.931
Training and development	RES3	3.895	1	5	0.392	11.443	-2.526
Financial resources	RES4	3.904	1	5	0.433	12.694	-2.544
Value of Information in Knowledge-Intensive Products	INQ1	3.904	1	5	0.389	10.195	-2.059
Accuracy of System Information	INQ2	3.924	1	5	0.384	12.319	-2.194
Relevance of Information	INQ3	3.826	1	5	0.526	10.651	-2.918
Ease of Access to Information	INA1	3.84	1	5	0.494	10.864	-3.058
Flexibility of Search Options	INA2	3.86	1	5	0.512	7.609	-2.155
Availability of Resources and Support	INA3	4.721	2	5	0.68	4.351	-2.349
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics.							

The study further investigates the collinearity issue which has a potential to generate misleading empirical estimations at some later stages. Therefore, diagnosing such issue is very important before applying the structural equation modelling technique. The results unveil that the VIF for all items is less than 5. Specifically, the VIF for Constraints variable is highest in CON3 (3.800) and lowest in CON1(2.065); for the variable Information Accessibility, the VIF is highest in INA2 (3.338) and lowest in INA1 (2.772); for the variable Information Quantity, the VIF is highest is INQ1(2.828) and lowest in INQ3 (1.479); for the variable Resources, the VIF is highest in RES2 (3.914) and lowest in RES4 (2.553); for the variable Strategic Dynamics, the VIF is highest in STD4 (3.941) and lowest in STD1 (1.254). since all the items had the VIF less than 5, the study did not observe any type of issue linked with the multicollinearity of these items. Table 3 presents items with their variance inflation factor results.

Table 3: Variance Inflation Factor (VIF) of Items.

Items	VIF	Items	VIF
CON1	2.065	RES1	3.108
CON2	2.756	RES2	3.914
CON3	3.800	RES3	3.189
CON4	2.485	RES4	2.553
CON5	3.531	STD1	1.254
CON6	3.122	STD2	3.808
INA1	2.772	STD3	1.691
INA2	3.338	STD4	3.941
INA3	2.980	STD5	3.416
INQ1	2.828	STD6	3.747
INQ2	2.279	STD7	3.241
INQ3	1.479	STD8	2.907
Note: CON; constraints, INA; information accessibility, INQ; information quality, RES; resources, STD; strategic dynamics.			

The major results of the study were generated through using the Smart PLS measurement model assessment. This was conducted by using the PLS algorithm option in the Smart PLS 4 which has provided the Cronbach's alpha, composite reliability by rho_a and rho_c, and AVE or average variance extracted. The results for the Cronbach alpha are 0.905, 0.908, 0.800, 0.836, and 0.882 for the variables CON, INA, INQ, RES, and STD respectively. The results for these very variables in terms of reliability as rho_a are 0.956, 0.908, 0.805, 0.847, 0.894, and for rho_c, the values are 0.923, 0.942, 0.883, 0.890, and 0.903 respectively. The AVE values for these variables are 0.668, 0.844, 0.717, 0.671, and 0.539. Overall, these results suggest that none of the values for Cronbach's Alpha, Composite Reliability (ρ_a), Composite Reliability (ρ_c), and Average Variance Extracted (AVE), are crossing the given cut-off levels while creating issues in the empirical estimations. For example, Alpha values are reasonably above 0.70 (**Panayides**, 2013), reliability values are also above 0.70 (**Hair *et al.***, 2021; **Alhamami**, 2024; **Julfiana *et al.***, 2023), and AVE is above 0.50 (**Afthanorhan**, 2013; **Haji-Othman; Yusuff**, 2022). For this reason, we report that all of the variables are showing good reliability and validity consistency. Table 4 and Figure 2 present these results.

Table 4: Reliability and Convergent Validity.

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
CON	0.905	0.956	0.923	0.668
INA	0.908	0.908	0.942	0.844
INQ	0.800	0.805	0.883	0.717
RES	0.836	0.847	0.890	0.671
STD	0.882	0.894	0.903	0.539
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics.				

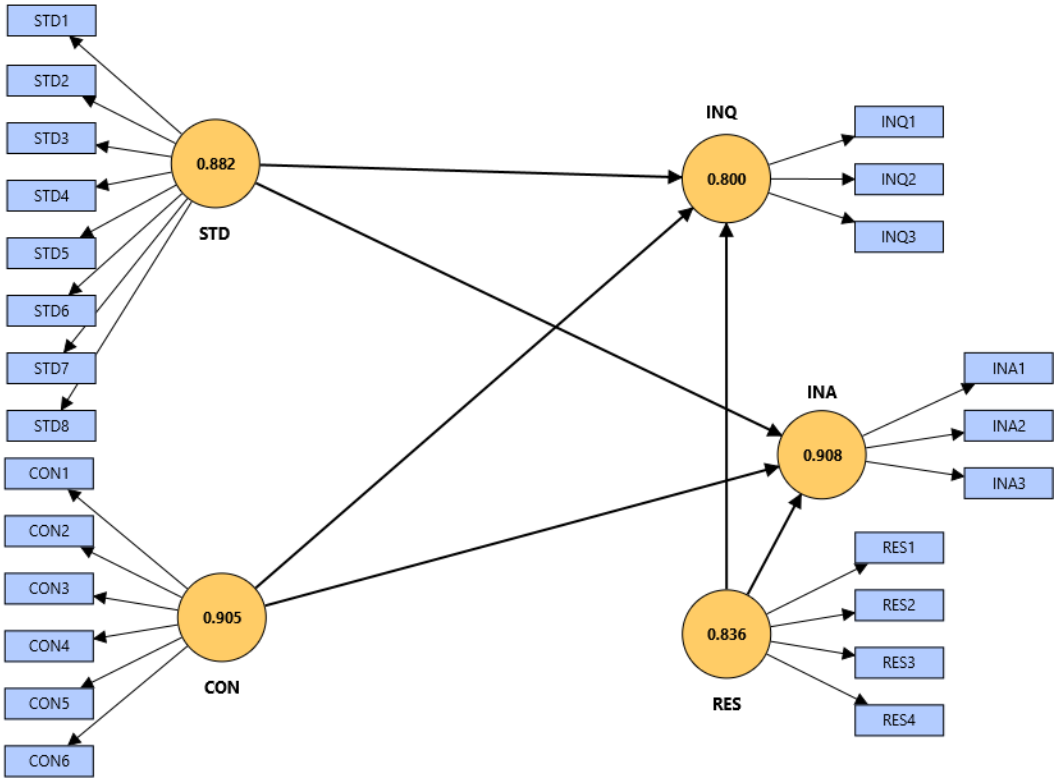

Figure 2: Alpha scores of the Constructs.
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics.

The major purpose of HTMT ratio is to examine the discriminant validity between the variables of the model. A low HTMT value suggests that the constructs are sufficiently different from one another. On the other hand, a higher value of HTMT ratio means variables have no discrimination from each other. Using this criteria, Table 5 reports the pairwise HTMT ratio between INA <-> CON, INQ <-> CON, INQ <-> INA, RES <-> CON, RES <-> INA, RES <-> INQ, STD <-> CON, STD <-> INA, STD <-> INQ, and STD <-> RES, which are 0.583, 0.475, 0.704, 0.693, 0.388, 0.411, 0.867, 0.604, 0.673, and 0.769, showing that there is no issue in terms of absence of discriminant validity. The reason that the available empirical studies provide a threshold level of 0.85 in terms of HTMT ratio between the variables. For example, the researchers like (**Yusoff *et al.***, 2020; **Radomir; Moisescu**, 2020; **Cheung *et al.***, 2024).

Table 5: HTMT Matrix of Relationship.

Matrix of Relationship	Heterotrait-Monotrait ratio (HTMT)
INA <-> CON	0.583
INQ <-> CON	0.475
INQ <-> INA	0.704
RES <-> CON	0.693
RES <-> INA	0.388
RES <-> INQ	0.411
STD <-> CON	0.867
STD <-> INA	0.604
STD <-> INQ	0.673
STD <-> RES	0.769
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics.	

The Fornell-Larcker criteria is a second method of checking the discriminant validity between the variables. The results have been presented in Table 6, showing the Fornell-Larcker criteria in terms of diagonal and off-diagonal values. The results are showing that the square root of AVE for the variables named CON, INA, INQ, RES, and STD are 0.817, 0.919, 0.847, 0.819, and 0.734, respectively. The other values have been found as 0.584, 0.450, 0.640, and 0.764 for the

correlation between the CON and INA, INQ, RES, STD. Similarly, the correlation of the INA with the other variables was found as 0.779, 0.866, and 0.613. The correlation between INQ and other variables was 0.838 and 0.629, and the correlation between RES and STD is 0.721. The overall results truly support the assumption that there exists enough evidence for the discriminant validity when measured through Fornell Larcker method. The threshold level of Fornell-Larcker criteria show that the square root for the AVE of each of the latent variable should be greater than the relative correlation (**Li; Lay**, 2024; **Al-Zwainy; Al-Marsomi**, 2023).

Table 6: Fornell Larcker.

Items	CON	INA	INQ	RES	STD
CON	0.817				
INA	0.584	0.919			
INQ	0.450	0.779	0.847		
RES	0.640	0.866	0.838	0.819	
STD	0.764	0.613	0.629	0.721	0.734

In the last part of the measurement model, the relative loadings for each of the item was checked, linked with the variables CON, INA, INQ, RES, and STD. The relative loadings for STD items achieved a loading above 0.50. Similarly, in the case of CON, INQ, INA and RES, the given factor loadings or outer loadings are seen above 0.50. These loadings have been showing their good role in providing good scores for the other measures in terms of reliability and validity of the latent variables. The R-square as generated for both of the dependent variable named Information Quality and Information Accessibility have been found as above 0.70. The given values of the R-square for both of the dependent variables are also found to be as substantial enough in order to determine the model's goodness of fit.

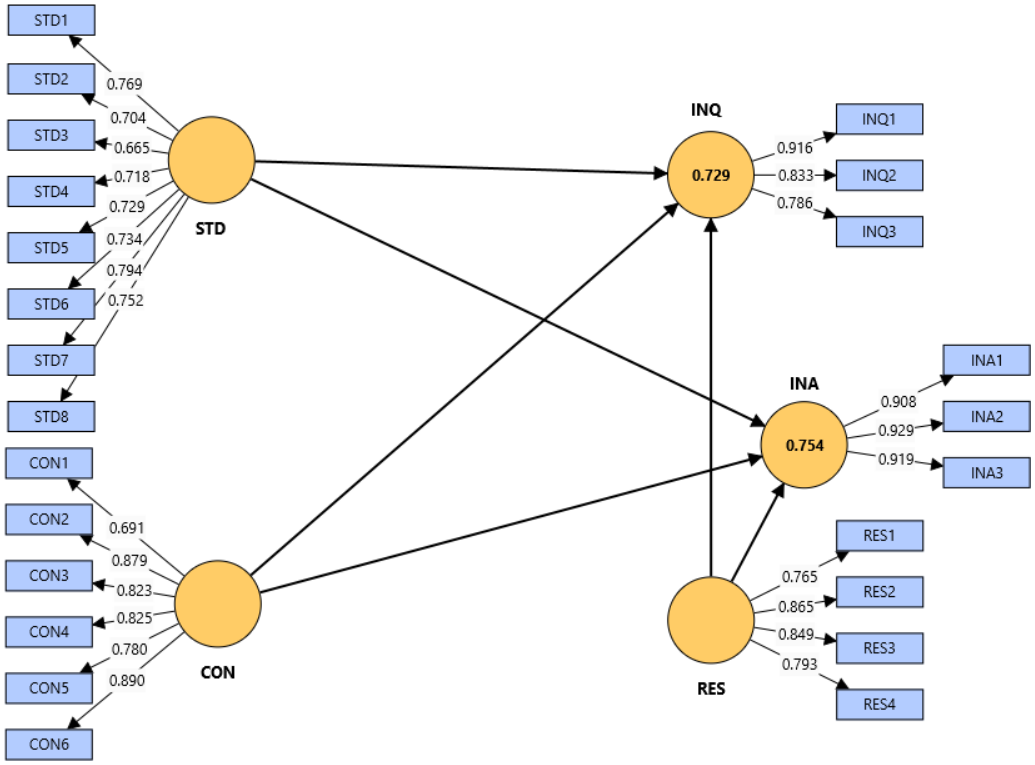

Figure 3: Loadings of the Selected Items.
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics.

The structural model results covered both the dependent variable proxies Information Management Practices through Information Quality and Information Accessibility. The results are shown in Table 7, covering the path coefficients and finally the p-values. For the first path, the study investigates the impact of the CON on the INA. The results show that the coefficient value is 0.094 which is leading to a positive change in the information accessibility as determined by the constraints. However, the t-statistics value is less than 1.96, therefore, the study inferred that there is an insignificant impact of the CON on the information management practices when measured through information accessibility or INA. As the results are insignificant, therefore, no further discussion has been made which would provide some policy implications.

The second part of the given results cover the impact of Constraints on Information Quality, the second proxy of the main dependent variable, Information Management Practices. The relationship between CON and INQ show a negative coefficient of -0.253, which indicates that keeping the overall other factors like Resources, and Strategic Dynamics, the change in the Information Quality is negatively determined by the Constraints being observed. This negative effect reflects standard deviation as 0.097 which means a relative variation in the given coefficient of -0.253. Furthermore, the t-statistics

of -2.598 provides the p-value of 0.009, which is no doubt statistically significant at 1%. For the measurement of Constraints, the study covers six major dimensions as shown in Table 2. Focusing on those 6 items it is revealed that the legal and contract issues, unclear value, lack of standards and structure, team fragmentation, and unclear roles and responsibilities create some severe organizational challenges that negatively impact Information Quality within an organization.

Additionally, when the legal and contractual restrictions are in place, they can lead to unclear terms or limitations that prevent the seamless flow of information. Therefore, the stated problems cause some practical issues for the teams to operate with inconsistent or outdated data, hence leading to poor decision-making by the end. Similarly, if the organization is not in a position to clearly articulate the value of the information being gathered, the employees of the organization would be less likely to invest the effort needed to maintain its quality, which results in neglected data and poor-quality checks. Furthermore, without a standard approach to collecting, storing, and managing data, each team may adopt its own methods, resulting in inconsistent and hard-to-trust information (**Lu *et al.***, 2015). For instance, one team might track the data related to the customers on different grounds from other teams, therefore, creating a big conflict in records and undermining integrity of the data. Another important point to be considered in the constraints is the team fragmentation (**Niknam; Karshenas**, 2017; **Becerik-Gerber *et al.***, 2012), where departments work under the condition of some limited communication. Ultimately, these constraints together prevent the organization from creating an environment of an accurate, and accessible information foundation, which is essential for effective decision-making, collaboration, and long-term success of the organization. Therefore, it is important to note that dealing with the given constraints is much needed for the effective information management practices over long-run.

In the third path of the structural model, the results show that Resources of the organization, as a whole, influence the Information Accessibility at 0.865 which is the highest impact in the model as shown by any of the independent variable. This shows that Resources are good indication in order to improve the Information Accessibility throughout the organization. The stated resources under consideration were consisted of technical capability, defined organizational representatives, training and time, respectively. By combing all these resources, it has been found that the targeted firms have achieves strategic results in the form of better Information Accessibility which ultimately determine Information Management Practices. The additional discussion aims to cover that the resources considered like technical capability, specific organizational representatives, training, and time are all play important roles in making information more accessible within the targeted firms. The technical capability chiefly covers the right tools and systems that allow employees to manage, process, and store data on efficient grounds (**Heredia *et al.***, 2022; **Valdez-Juárez; Castillo-Vergara**, 2021). This makes sure that those individuals who can quickly access some accurate and up-to-date information whenever they need it. Additionally, the designated representatives of the organization make it clear who is responsible for looking after this information, which helps keep it reliable and reduces errors across the company. The other organizational resources include that training factor would like to give the employees with the desired skills (**Zahra *et al.***, 2014; **Pont**, 2003) to use these information systems well and follow best practices, so there is a less chance for miscommunication between different stakeholders of the organizations. Time is also important due to several reasons. For example, when enough time is given, teams within different functional areas of the firm can adjust and learn while managing information quality. Therefore, the collective input from these set of resources enable the firms to achieve real strategic results, with information that is easy to access, trustworthy, and ready to use. For this reason, it is believed that given organizational resources are good source for the better information management practices of the firm.

The fourth path in Table 7 aims to cover the impact of the resources in the information Quality; a second proxy of the Information Management Practices. The results are supporting the positive and significant coefficient of Resources towards the Information Quality. It shows that the coefficient value is 0.848, showing that there exists an overall change of 0.848% in the information quality as reflected by the organizational resources. This impact is showing a t-value of 8.826, aiming that a significant impact has been found where the p-value is less than 1% as shown in Table 7. The overall results confirm that Resources are good indication for improving the Information Management Practices in terms of Information Quality when investigated for the targeted firms. For this relationship, authors have explored several associated factors. For example, investment in the reliable technological resources like data management and data processing would aim to determine that everyone within the organization has access to reliable and up-to-make information which is found to be an essential factor for informed-decision making. Moreover, better resources would also determine the fact that specific individuals or resources are responsible for the management of data and quality of information. This means that the organizational level information is being handled by those individuals who are efficient and capable enough to provide better outlook for the quality of information. Another organizational level resource is to focus on the training of the employees which can also generate meaningful results in the form of better information management practices. The core reason is that an ongoing training and development process for the employees aim to help them in order to develop the skills they need to work with data effectively, follow good Information Management Practices, and correct utilization of the available organizational technology. When employees know how to enter, check, and understand data properly, it improves data accuracy and reliability throughout the organization, hence an overall improvement in the information management practices when measured through Information Quality. Table 7 presents the structural model analysis as narrated.

Table 7: Structural Model Analysis.

Path No.	Directions	Original sample (O)	(STDEV)	T statistics	P values
First path	CON -> INA^{insig}	0.094	0.065	1.444	0.149
Second path	CON -> INQ***	-0.253	0.097	-2.598	0.009
Third path	RES -> INA***	0.865	0.061	14.119	0.000
Fourth path	RES -> INQ***	0.848	0.095	8.926	0.000
Fifth path	STD -> INA^{insig}	-0.082	0.080	1.024	0.306
Sixth path	STD -> INQ***	0.210	0.015	14.00	0.000
Note: CON; Constraints, INA; Information Accessibility, INQ; Information Quality, RES; Resources, STD; Strategic Dynamics. Insig; Insignificant.					

However, unlike the above explained relationships, the results for the fifth path show that strategic dynamics have their significant relationship with the Information Accessibility where the coefficient is negatively insignificant either at 1% or at 5%, respectively. The sixth path in Table 7 justifies the relationship between the overall Strategic Dynamics and Information Quality. This relationship signifies the path coefficient of 0.210, indicating a productive and positive change in the Information Management Practices like INQ. The given value of the coefficient has reflected a deviation level of 0.015, leading to a t-statistics of 14.00 and p-value of 0.000. This significantly positive impact of the Strategic Dynamics on the Information Quality determines good pathway for the improved and better Information Management Practices followed by the targeted firms. The first factor under Strategic Dynamics is entitled as collaborative culture which improves the Information Quality by encouraging open communication among different functional areas and departments along with the shared responsibility, and knowledge-sharing among teammates. When people work together, they feel more comfortable in terms of sharing their ideas, asking questions, and discussing the key points on open grounds. This creates a natural system where team members help each other while clearing any type of confusion. Additionally, under the condition of a collaborative environment, everyone shares the responsibility regarding the accurate and consistent information, knowing that such act would tend to benefit the entire firm. Through regular teamwork, teams can also agree on standard ways to collect, store, and update data. Therefore, by working together or as a team for different functional departments, employees not only improve data quality but also make better, well-informed decisions, which strengthens the organization as a whole. Figure 4 shows the output of the structural model showing the p-values in the inner paths.

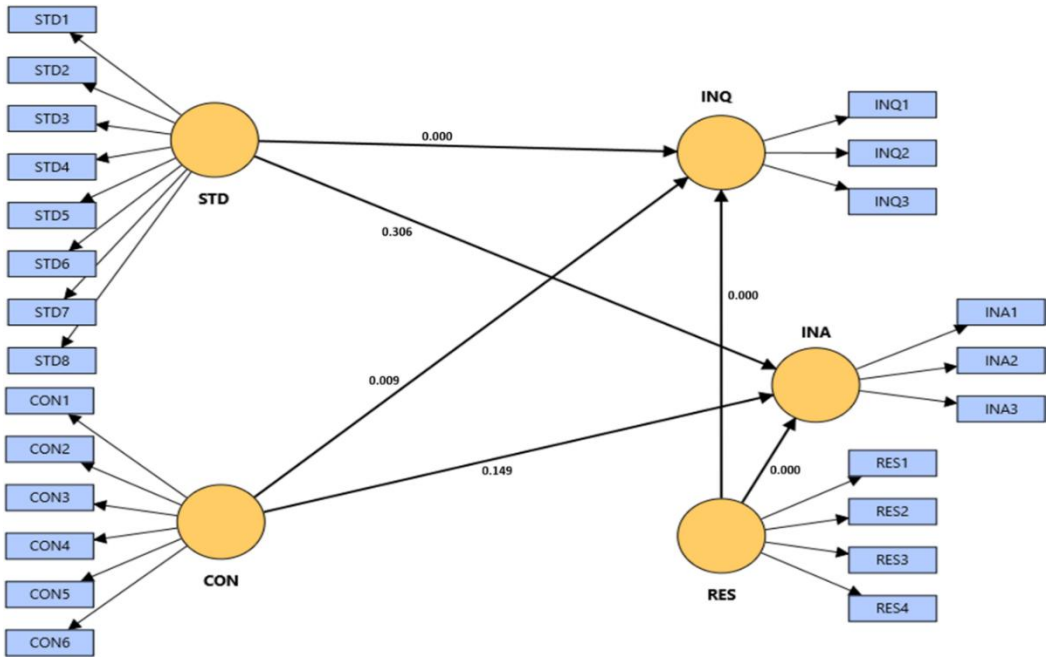

Figure 4: P-values in the Inner Model.
Note: CON; constraints, INA; information accessibility, INQ; information quality, RES; resources, STD; strategic dynamics.

5. Conclusion

It is believed that for effective information management practices, there is a strong need to focus on the dimensions like information accessibility and information quality. By effectively focusing on both the dimensions of accessibility and quality of the information's, organization would be able to achieve its long-term objectives. This research has been carried out while considering the role of the strategic dynamics, constraints, and resources towards the information accessibility and information quality. The study developed a structural questionnaire by using the available past studies. The collected data was well analyzed using the measurement and structural model techniques in Smart PLS. The results show that regarding the key constraints, there exists a significant and negative impact of the constraints on the information quality, hence reflecting the fact that there is a strong need to deal with the several organizational-level constraints which are disturbing the information

management practices. However, the organizational resources fully and significantly promote both the factors like Information Accessibility and Information Quality among the key firms being observed in the current research. The observation regarding the role of the strategic dynamics towards the Information Management Practices reveal that for the Information Accessibility, it has no significant impact, whereas the change in the Information Quality is positive and productively reflected by the Strategic Dynamic outlooks among the selected firms.

The study provides a few but novel policy suggestions for improved Information Management Practices. The first factor of the Strategic Dynamics indicates the fostering of the collaborative culture. It suggests that managers should implement the regular cross-sectional meetings along with the knowledge-sharing sessions. In this way, the individuals working at different departmental levels need to encourage in terms of sharing the information, resources, and ideas along with promoting the open communication. The second component of strategic dynamics include the formation of integrated teams for the projects. For this purpose, the study suggests forming some strategic organizational levels covering different departments like information technology, finance, human resource, and management information system. Such teams need to facilitate the smooth sharing of information and ideas. The third and the fourth factor under the title of Strategic Dynamics cover the stakeholders' engagement and development of clear processes and relevant guidelines. The policy suggestions for such factors include the early engagement protocol while integrating the data collection, storage and access. The other suggestions regarding the Strategic Dynamics to promote the quality and accessibility of the Information Management Practices include but not limited to utilization of the collaborative tools and centralized dashboards regarding knowledge sharing.

In order to deal with the given constraints having their adverse influence on the Information Management Practices, the study suggests that relative authorized departments should develop a standardized process for reviewing and approving legal and contractual aspects of information management, which mainly involve the legal experts where the seem necessary. Additionally, the organizations are also suggested to create a value proposition statement that highlights the benefits of effective information management while communicating it across the different departmental levels of the organization. However, it is also important to note that management at each of the relevant department should also establish clear roles and responsibilities for effective HR practices.

Like other research studies, there are several associated limitations with this work. For instance, the study primarily applies the quantitative methods for which the data was collected using the structural questionnaire. Second, the study completely neglects the impact of other variables like knowledge acquisition, knowledge dissemination and knowledge responsiveness towards information management practices when accounting for information accessibility and information quality. Future studies should consider the given limitations for expanding the theoretical and empirical model based on the information management practices under the shadow of different industrial and work-settings.

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