Original Paper

Tax Risk Management and Control Mechanisms in the Sichuan Tobacco Industry

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Abstract

To address the growing complexity of the tax environment, this study surveyed 24 tobacco entities across Sichuan Province. It examines the current state of tax risk management in the provincial tobacco commercial system, identifies key weaknesses, and summarizes effective practices. Using descriptive and correlation analyses, the study further explores the relationships among the major dimensions of tax risk management. The results show that Sichuan Tobacco has built a relatively strong compliance foundation, but its performance is still limited by weak systematization in management and insufficient capacity for resource integration. Team size, training quality, the level of informatization, and governance coordination all have a significant influence on management quality. On this basis, the study proposes a set of optimization strategies centered on team development, improvement of the risk management system, digital enablement, construction of a tax knowledge system, and deeper external collaborative governance. These findings offer both empirical support and practical insight for strengthening tax risk management capacity.

Keywords

data-driven tax governance, tobacco tax administration, current situation analysis, risk prevention and control

1. Introduction

The tobacco industry is under growing tax risk as tax governance moves further toward data-driven regulation. In practice, uneven development in information systems and management capacity has created a number of persistent problems. These include breaks in the business–finance–tax–invoice chain, continued reliance on manual filing, data silos, and weak coordination across departments. Together, these problems make tax risk identification and control more difficult throughout the filing process (Chen, Xue, Gong, & Jing, 2022; Chen, Xue, Gong, & Zeng, 2023). At the same time, tax authorities now have stronger digital and analytical capacity. This has improved their ability to detect anomalies and carry out penetrating comparisons, which has further increased tax risk exposure in the sector (Gao, 2025). Similar compliance pressure has appeared in related industries as well. Under big data governance and changing regulatory standards, data quality, privacy protection, capability gaps (Hu, Huang, & Wu, 2016), and more complicated tax treatment scenarios (Luo, S., & Tang, 2025) have all become major challenges (Sun, Ying, Zhang, & Pan, 2024; Yu, H. F., & Yu, J. Y., 2024). Therefore, on the one hand, Sichuan tobacco enterprises should quickly complete data governance and system integration to meet the ' non-contact, full-chain, penetrating ' verification requirements ; on the other hand, it is necessary to make up for the structural shortcomings such as system, policy, process and regional coordination, form the system synergy of system-process-data-technology-team, and create a closed-loop management mechanism of tax risk early warning, processing and review (Yu, W. Z., Wang, W. Q., & Wang, Y. N., 2024).

From the above analysis, it can be concluded that there are few studies on tobacco tax risk, many problems are vague, and the research is mainly based on case and qualitative analysis, lacking sample questionnaire and quantitative evidence. Therefore, the research and design of Sichuan tobacco tax risk management status questionnaire is used to investigate the tax risk status of the whole province. Based on this, multi-dimensional analysis is carried out to deeply explore the current situation and influence mechanism of tax risk. The digital level, internal control management and audit mechanism are included in the tax management framework, which lays the upper decision support for the construction of digital intelligent tax risk management system and closed-loop management mechanism, and promotes the transformation of tax management from traditional transactional and passive operation to value-based and active management, so as to help the high-quality development of Sichuan tobacco.

2. Research Design

2.1 Questionnaire Design

Based on the COSO-ERM framework and the " Guidelines for Tax Risk Management of Large Enterprises, " the Likert 5-point scale method is used, and the Sichuan tobacco industry 's own concerns are combined. The core content of the survey is personnel ability, complete system, process specification, implementation compliance, and intermediary dependence. The tax risk management

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maturity index is constructed to measure the level of tax management risk. The detailed structure is shown in Fig 1. The purpose of this questionnaire is to fully understand the current situation of tax risk management of tobacco commercial enterprises in Sichuan Province, in order to find out the highlights, pain points and blocking points, and provide decision support for improving the quality and efficiency of tax management in the industry.
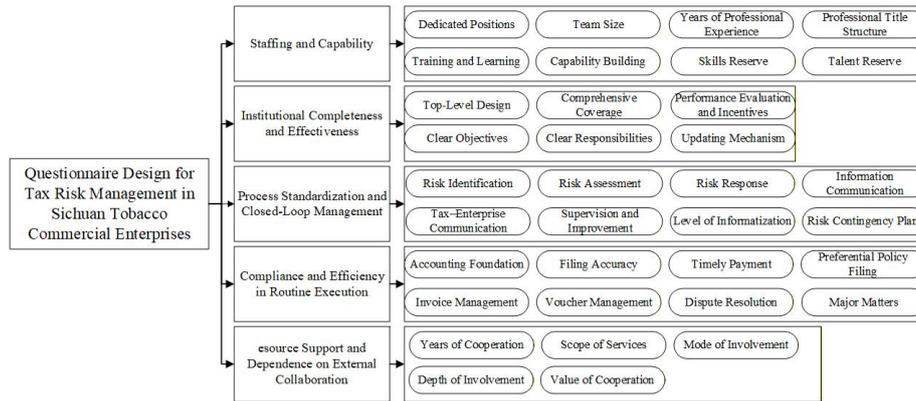
Figure 1. Questionnaire Design Framework

2.2 Data Sources

All 24 municipal companies and directly affiliated units of Sichuan Tobacco Company, including 21 municipal companies and 3 directly affiliated units, were distributed through offline questionnaires. The questionnaire recovery rate was 100 %, and all the questionnaires were valid.

2.3 Analytical Method

The analysis logic of ' macro current situation description-association mining ' is adopted, and descriptive statistics, correlation analysis and other methods are used for data processing and analysis to ensure comprehensive and in-depth. The descriptive statistics section will describe the overall status of this aspect by comparing the mean and median of the item scores of each dimension. Spearman rank correlation analysis was used to explore the correlation between team size, training times, informatization, governance effect and process quality.

3. Analysis of Results

3.1 A Multidimensional Analysis of the Current State of Tax Risk Management

Data collected from the 24 units were first screened for missing values and outliers. Mean-based descriptive statistical analysis was then carried out, and the results are reported in the table below.

Table 1. Descriptive Results on the Current State of Tax Management in Sichuan Tobacco

Dimension	Mean	Median
Compliance and Efficiency in Routine Execution	4.17	5.00

Process Standardization and Closed-Loop Management	2.86	3.00
Institutional Completeness and Effectiveness	2.67	3.00
Level of Informatization	1.75	1.50
Staffing and Capability	2.65	3.00
Resource Support and Dependence on External Collaboration	2.43	3.00

It can be seen from Table 1 that the average daily compliance is 4.17, with a median of 5, indicating that the data is concentrated, and the province is at a high level in this aspect. This dimension covers the core links of traditional financial work such as accounting, tax declaration, tax payment, preferential filing, and invoice management, which is the basis for the development of tax compliance. The scores of tax system construction (2.67) and process standardization (2.86) are low, with a median of 3, and the data are relatively concentrated, both at a medium level, exposing that the tax risk management of many units is in the stage of ' rule of man ' without rules to follow or rules to follow. The ability of tax risk management is limited to the operational level, and the system level is broken, which will directly breed systemic risks and have no ability to actively discover and respond to risks. The score of informatization level is 1.75, and the median is 1.5, which is at a low level, indicating that tax management is still in a relatively extensive state, relying mostly on manual work, and the data connection is not smooth, which makes the lack of risk early warning ability and the loss of risk management initiative. The scores of staffing and capability (2.65) and external collaboration (2.43) are low, with a median of 3, which belongs to the middle level. The personnel aspect shows that the allocation gradient construction is weak and the ability is insufficient. The outsourcing level shows that most units cooperate with the outsourcing, but most of them stay in the basic service, and the participation rate is low. It is difficult to transform the cooperation results into the sustainable ability of the enterprise, which leads to the low efficiency of resource integration.

The above analysis shows that the level of tax risk management presents the general characteristics of strong foundation, weak management, lack of data and low efficiency of resource integration. Although the daily implementation of high compliance has laid a solid foundation for tax management, it lacks systematic, resource and digital support, and cannot cope with the increasingly complex dynamic risk environment.

3.2 Correlation Analysis Results

The above analysis depicts the whole picture of tax risk management in Sichuan tobacco business system. In order to further explore the internal causes, through correlation exploration, in-depth exploration of data logic, it reveals the hidden logical relationship and driving relationship between

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organization, training, governance and informatization on tax risk process control.

Table 2. Correlation Analysis Results

Variable 1	Variable 2	*r*	*p*
Team Size	Risk Response	0.468	0.033 (**)
Team Size	Clear Objectives	0.436	0.043 (**)
Level of Informatization	Dispute Resolution	0.680	0.0027 (***)
Governance Mechanisms	Supervision and Improvement	0.703	0.00027 (***)
Governance Mechanisms	Compliance in Routine Execution	0.559	0.0055 (***)

According to Tab 3, the conclusion is that team size has more influence than whether there is a full-time position. Team size O has a significant positive correlation with multiple process quality indicators, especially in risk response (P2, r=0.468, p=0.033) and target clarity (S5, r=0.436, p=0.043). The correlation direction of risk assessment (P1) is positive, but it does not reach a significant level (p is greater than 0.2). There was no significant correlation between the number of training (T) and the accuracy of declaration (D2) and invoice management (D2) (r values were 0.069 and 0.061, respectively, p>0.70), indicating that the quality of training was better than the number of training, and the quality dimensions such as training content, quality and assessment embeddedness were not effectively captured, resulting in insignificant statistical relationship. Informatization level (I) was significantly positively correlated with dispute resolution ability (D1) (r=0.680, p=0.0027), but not significantly correlated with declaration accuracy (D2) and invoice management (D3). Governance four sets is significantly correlated with supervision improvement (P3) (r=0.703, p=0.000266), and is also significantly correlated with daily execution compliance (D-mean) (r=0.559, p=0.0055), indicating that governance synergy effectively promotes quality improvement. The synergy of top-level design, responsibility, assessment and iterative mechanism can accelerate the improvement of closed-loop, improve the stability of execution, and enhance the marginal benefits of information.

4. Discussion on the Current State of Tax Risk Management in Sichuan Tobacco

4.1 Analysis of the Current Risk Situation

Based on a broad survey and data analysis covering 24 tobacco companies across Sichuan Province, tax risk management in the Sichuan tobacco commercial system shows a fairly solid compliance foundation, but the management system remains fragile and digital support is still limited. More specifically, five main problems can be identified. First, organizational support is not strong enough,

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and the structure of professional capability remains weak. Most units still depend heavily on part-time staff. Team size is often small, professional backgrounds are not sufficiently diverse, training is inadequate, and talent reserves remain limited. Second, the institutional system is still underdeveloped, and governance coordination has not worked effectively. Top-level design is weak, responsibilities are not clearly defined, performance incentives lack force, and updating mechanisms do not function well, which makes it difficult to build a true closed-loop governance structure. Third, the process standardization is insufficient, and the closed-loop management ability is weak. The initiative of risk identification and assessment is insufficient, and it relies more on post-discovery. The degree of information support is low, and the emergency response mechanism is generally lacking. Fourth, the digital construction is lagging behind, and the system support capacity is lacking. The level of informatization is significantly lagging behind and has become the lowest score dimension in the province. A lot of work still relies on manual operation, data isolation between business, financial and tax systems, lack of automatic verification and risk early warning capabilities, and it is difficult to adapt to the new requirements of precise supervision of " tax by numbers " ; fifth, the external cooperation is shallow, and the ability transformation effect is limited. Lack of effective mechanisms for deep embedding processes, co-construction risk capabilities, and knowledge transfer, the value of cooperation has not been fully translated into the improvement of internal management capabilities.

4.2 Optimization Strategies for Tax Risk Management

In order to adapt to the current reform of "tax by numbers" and systematically improve the tobacco tax risk management ability of the whole province, it is suggested to promote the following strategic measures step by step around the core ideas of "clear responsibilities, standardized system, digital management and control, and specialized ability" :

(1) Strengthen organizational security and clarify job responsibilities. It is mandatory for all units to clarify the main responsibility position of tax risk management and report to the provincial company for the record, so as to effectively solve the problem of " no one is responsible. " Optimize the size and structure of the team, clarify the responsibilities and authorities of each post, simultaneously establish the ability map of tax personnel in the province, and formulate a long-term training plan for compound talents covering tax, legal and data skills.

(2) Improve the institutional system and improve the governance closed loop. Co-ordinated by the provincial company, the province issued a unified tax risk management standardization toolkit, including the institutional framework, operational processes, risk lists and assessment guidelines. Focus on strengthening the dynamic management of the system, establish a normalized system annual inspection and update mechanism, and ensure that the system responds to policy and business changes in a timely manner. Effectively incorporate the effectiveness of tax risk prevention and control into organizational and personal performance appraisal, establish clear and quantifiable reward and punishment indicators, and enhance the rigidity of system implementation.

(3) Accelerate digital empowerment and promote pre-event control. The tax risk management and

control rules are embedded in the existing business financial system, and the automatic control of key links such as invoice management, declaration and verification is given priority. Break through the data barriers between systems, build a unified tax data support platform, and gradually realize the automatic collection, verification and comparison of the whole chain data. Develop a real-time early warning and monitoring platform for tax risks, dynamically monitor key indicators, and change passive response to active management.

(4) Deepen professional training and build knowledge management system. Focusing on the weak links such as policy interpretation, data application and complex matter processing, targeted and practical training is carried out. Integrate typical practical cases in the province and establish a shared and reusable tax knowledge base and management tool base. Pilot implementation of tutorial system and post rotation training in units with better conditions, strengthen experience inheritance and talent echelon construction.

(5) Optimize external collaboration and promote endogenous transformation of capabilities. Promote the transformation of the cooperation model with intermediaries from transactional services to strategic and embedded cooperation, and clearly require the embedding of process co-construction, knowledge transfer and risk sharing mechanisms in cooperation. To explore the cooperative payment model based on performance results, regularly evaluate the effectiveness of cooperation, and guide external resources to truly serve the improvement of internal management capabilities.

5. Conclusion

In summary, with the continuous advancement of the tax reform, the possibility of tobacco tax risk exposure has gradually increased, and these risks will directly affect the financial health and core development strength of tobacco companies. In order to effectively deal with tax risks, it is necessary to continuously improve internal control measures from the perspective of internal control, gradually transform from transactional and passive to value and active tax management, realize accurate diagnosis and control of tax risk management, realize the leap of tobacco tax risk management governance ability and governance level, and help Sichuan Tobacco develop with higher quality.

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