

Case Study

Pancha Tantra Online System

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Executive Summary

The Government of India has introduced several welfare and development schemes aimed at improving rural development and growth. However, most of these interventions, in terms of mitigating rural distress, have proven significantly ineffective. Amongst the dominant challenges that constrain these efforts to materialise into successful models of governance, deep levels of financial corruption and unaccountability can be identified amongst the major concerns.

The Pancha Tantra online system aims at institutionalising a robust system of accounting to overcome this challenge. It was introduced under the 2007 Amendment to the Panchayat Raj Act 1993. As per the amendment, the state government enforced the new Karnataka Panchayat Raj Rules. It prescribed a new set of accounting and budgeting rules called 'Double Entry Accounting System' in all *gram panchayats* (GP) of the state. The accounting system was implemented with the aim of rectifying the weaknesses of single entry accounting. Under the traditional system, the GP would maintain accounts manually. The accounting information based on such a system was ridden with issues including incorrect entry of details, non reliability and lack of authenticity of data, outdated entries and such others. It therefore, prevented the effective monitoring of *gram panchayats* and its functioning.

The Pancha Tantra is an online accounting system that enables the government to engage in monitoring and evaluating the work undertaken at the *panchayat* level. The system enables the public and the government to avail all necessary information about the gram panchayat and evaluate its functioning. In doing so it facilitates to ensure that the funds/grants to be allocated at local level are based on the performance of the *gram panchayats*.

The Pancha Tantra online system is an innovative use of information and technology that aims at improving the delivery of public services based on greater accountability and transparency.

Methodology

The background study on Pancha Tantra was based on secondary research methods. This primarily included web based information on its working design and impact. On the basis of this analysis, a set of key features, key stakeholders and benefits of the initiative were identified. These findings were verified through a telephonic interview with the Project Head, Karnataka Rural Development and the Panchayat Raj Department, of the initiative. The interview was based on a semi structured questionnaire. Since the interview was only conducted with the implementation agency, chances of

informational bias cannot be denied and the study may be limited in terms of the documentation of views and responses of the beneficiaries and users of this application.

The Pancha Tantra Online system as a best practice was done with the intention of showcasing the programme as a replicable model that aims at effective and efficient delivery of public services using ICT as a tool.

Background

In India, the central and the state governments have been consistently facilitating effective devolution and decentralisation of funds, functions and functionaries to the grassroots level. This is in view of institutionalising PRI as self governing anchors of rural development. Over the past few years, numerous welfare and development schemes are being implemented at the local *gram panchayat* level. This has increased the responsibility of local governance institutions to deliver in terms of effective implementation of the schemes.

Panchayati Raj Institutions (PRIs) were established in the state of Karnataka in 1993-1994. Following the 2007 Amendment to the Panchayat Raj Act 1993, the state government enforced the new Karnataka Panchayat Raj Rules, 2006. The new set of accounting and budgeting rules prescribed a 'Double Entry Accounting System' in all *gram panchayats* of the state. However, most *gram panchayats* were ill equipped to maintain the financial and budgeting account within the double entry accounting format. Therefore, the Karnataka Rural Development and the Panchayat Raj Department (RPDR), in association with the National Informatics Centre (NIC), developed the software for effective implementation of the double entry accounting system. Based on mutual consultations, the NIC developed this software into the 'Panch Tantra Online System'.

The Panch Tantra system is a comprehensive online software system that has successfully automated the functions and activities of 5,628 *gram panchayats* of the state of Karnataka. The web application with a three-tier architecture fulfils the requirements of all *gram panchayats* to effectively implement a double entry accounting system. The system incorporated the rules and regulations of the PRI Act and assists the *panchayat* officials to fulfil their duties and function as defined by the same.

Institutional structure of PRI in Karnataka

-The three tier system is constituted by;

Zila Panchayat
Taluk Panchayat
Gram Panchayat

-Total number of;

Zila Panchayat-30
Taluk Panchayat-176
Gram Panchayat-5628

Gram panchayats cover more than 29066 villages and a total population of 3.4 crores.

The online system enables the government to effectively monitor and evaluate the work undertaken at the *panchayat* level and ensures performance-based allocation and dissemination of funds. The data generated and recorded on various activities undertaken by the *gram panchayat* can be easily accessed by citizens and policy makers.

The case study highlights the role of information and communication technology in improving local level governance based on a more accountable and transparent process of public service delivery.

Objective

The primary objectives of the initiative are:

- i. Enhancing accountability by ensuring that the allocation of funds/grants at local level is based on effective monitoring and evaluation of the performance of the *gram panchayats*
- ii. Infusing greater transparency in the delivery of services at the local level
- iii. Improving the functioning of *gram panchayats* based on effective management and dissemination of information in the public domain.

Programme Design

Key Stakeholders

Concept design and implementation

- Rural Development and Panchayat Raj Department
- National Informatics Centre

| Key Officials (RDPR and NIC) | Roles |
|--|--|
| Nodal Officer | Overall administration |
| NIC officer, District Informatics Officer | Design, training and implementation |
| Chartered accountant | Maintenance of accounts |
| CEO, Zilla Panchayat | Provision of IT Infrastructure |

Beneficiaries

- *Gram Panchayats*
- Taluk Panchayat/Zilla Panchayat/Government
- Citizens of Karnataka

Process Design

The basic design of the Pancha Tantra online application facilitates a systematic flow of information from the point of data entry to the availability of the data in the public domain.

Functions, activities and services

Following the 2007 Amendment to the Panchayati Raj Act, all *gram panchayats* (GPs) were mandated to adopt the 'Double Entry Accounting System'. The Pancha Tantra web-based application facilitates the GPs to fulfil the requirements of this system in the following ways.

i. **Financial module**

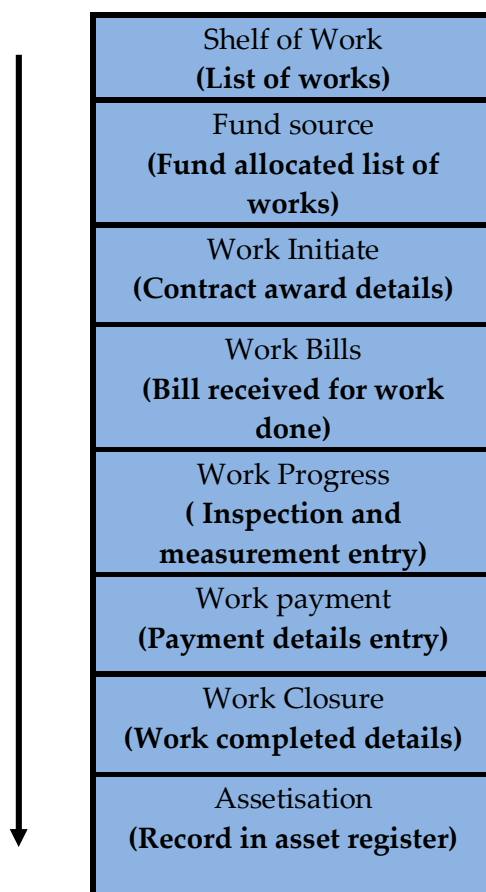
The financial module enables the GP to debit and credit different types of financial transactions like,

- Master details about property holders, contractors and suppliers, bank and accounts, schemes, shelf of work, GP members and assets, ward, water connection, licensees and such
- Details about the demand raised by GP for entertainment, advertisement, vehicles, cattle pound, GP assets and details about the property tax on land/building/water resources

- Details about the tax generated, collections and grants. The user can generate receipts for grants, schemes, donations and other such matters
- Details about the bills payments made by the GP for various schemes.

ii. Development works module

The development works module provides details on the work initiated, progress and its closure. The module is also linked with the payment for the development works option given in the online system. Upon the completion of work, the Pancha Tantra system converts the work into fixed assets of the GP. The diagram below enlists the process of entering the work flow of a particular development work into the system.



iii. Services module

The services module enables GPs to render multiple services based on the information entered into the system

- It generates tax receipts directly for payments made by the public.
- The GP issues licenses for infrastructural development such as construction of buildings, factories, and shops within its jurisdiction. Once a request for an application is made, the GP can enter, accept or reject a request and also provide reason through the system for taking particular action.
- Complaints and suggestions filed by the public can be received and entered into the system. Appropriate action taken on them is also reflected online for the public to access. There is a provision for capturing details about the *gram sabha* proceedings, number of participants and the decisions taken. The user can identify and add beneficiaries selected under a scheme and take appropriate action.
- Remission details of the property owners can be entered with the help of the online application.

The service module receives applications, taxes, complaints and suggestions from the public. Upon the entry of these requests, the system automatically generates acknowledgements. This is made available to the GP secretary for necessary action.

iv. User module

A user can view various reports for information and assessment including balance sheets, financial statements and reports, master reports, miscellaneous reports such as bank details, service details, GP *sabha* details, active schemes, beneficiary wise and scheme wise beneficiary reports, details about the work and its status, financial status of schemes, GP asset and liabilities reports, details of payments to contractors and *panchayat* profile reports.

The online application enables users to automatically reconcile scheme wise accounts with financial statements of a GP.

Key characteristics of programme design

The Pancha Tantra online system is proposed as a user-friendly application that has been specifically designed in view of the capacity of GPs to understand and operate a computer system. The key features of the online system are as following:

Inbuilt local language support

The Pancha Tantra system can be accessed in both Kannada and English languages for the convenience of the user. The user can choose a suitable language after logging into the system. Its effective operation does not demand extensive knowledge of the use of computers and software. The user can perform all necessary functions in the local language.

Double Entry Accounting System

The system processes bills, payments, demands, taxes, receipts automatically and involves limited manual operations.

Predefined business rules

The Pancha Tantra online system incorporates the rules and regulations defined in the Panchayat Act. The system is designed and developed to guide the officers in fulfilling their functions within the purview of these rules.

Interface

The system has been designed to facilitate greater transparency in the functioning of GPs. Users can make tax payments, give application and requests for beneficiary/licenses, make complaints/suggestions through the system and collect the acknowledgements at the same time. It enables the users, public or government authorities, to view and assess the status of applications.

The workflow system

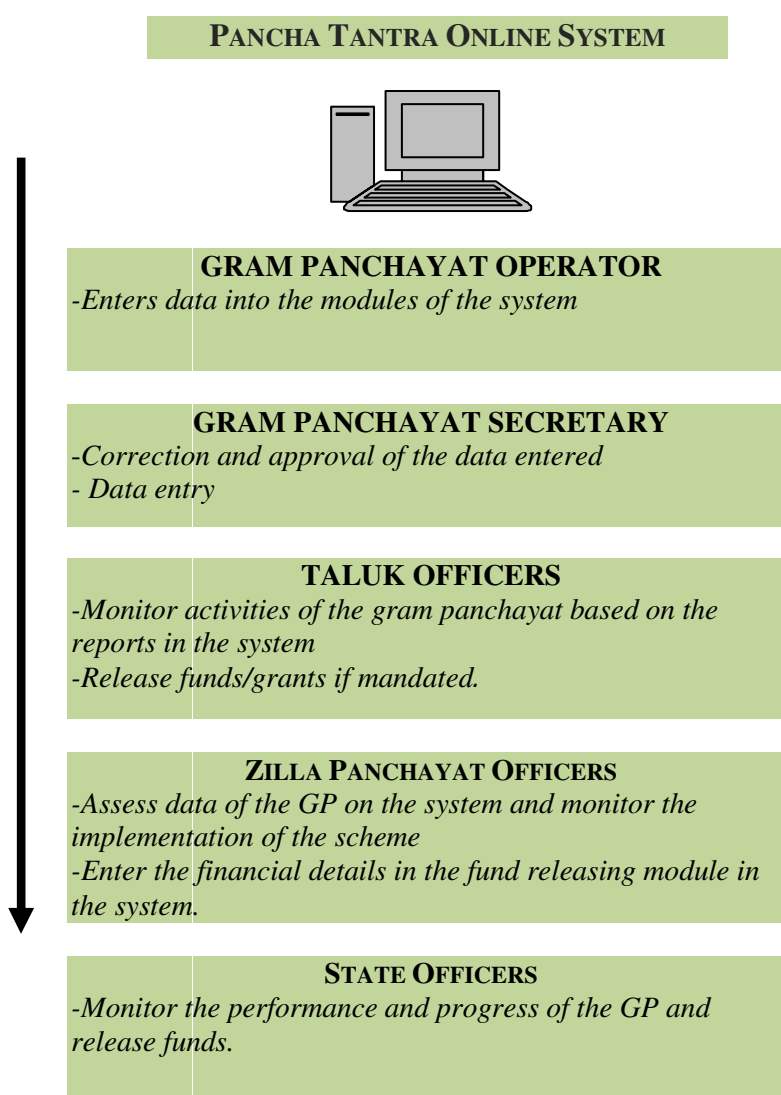
The Pancha Tantra incorporates a workflow based system. It enables the passage of activities and tasks from one user to the other facilitating a seamless fulfilment of responsibilities at different levels. It has infused improved management of information and greater organisation in functioning of GPs. The officials cannot evade a procedure or process of carrying out a particular function because of the built-in workflow system.

Checks and balances

In order to ensure that officials follow the guidelines and rules, a system of checks and balances has been developed into Pancha Tantra. The approval of funds/grants is made on the basis of the measurement of the entries. Without the entry of the balance of accounts, no bill is cleared by the online application. This ensures the strict obedience to the norms prescribed by the online system.

User based access

The online system is accessed by a variety of users based on their roles. The following figure depicts the way in which the information is generated and processed by the online system through different stages.



Infrastructure development

At the time of implementation of Pancha Tantra online system, one of the major objectives was to develop a sustainable IT infrastructure at the local GP level. The responsibility for effective

fulfilment of these functions was in the hands of the Chief Executive Officer of the Zilla Parishad. The process involved setting up a computer system in all GPs and providing internet connectivity. Data cards were distributed to those GPs that lacked internet connectivity. Solar UPS and long hour battery set up was also enabled at the local level.

Training and capacity building

Training workshops have been conducted to attune GP members with the system and its operations. This primarily included imparting basic computer and accounting skills and knowledge about the Double Entry Accounting System and its application. The Nodal Officer in RDPR and the District NIC Officer were trained in separate batches in Mysore and Bangalore respectively for three days. Following this session, the District NIC Officer and the Nodal Officer undertook a three day workshop for other GP members. The workshops were monitored by the RDPR and the State Informatics Office through video conferencing.

The initial stage of training in Pancha Tantra continued for a year. Thereafter, regular monitoring by the RDPR has ensured timely identification of operational constraints and their rectification.

Monitoring and evaluation

The monitoring of the GP and the Pancha Tantra operating system is pursued at three levels. The Block Development Officer at the *taluk* level oversees the functioning of the system at the *taluk panchayat*. The executive officer at this level conducts monthly meetings with the GP and formalises MIS reports to review all transactions made at the GPs. The Deputy Secretary and the CEO of Zilla Panchayat monitor the working of the application at the district level. The RDPR is involved in monitoring and evaluation of the online system at the state level.

Financial Resources

The NIC has designed and developed the software free of cost. The infrastructure and capacity building expenditures are borne by the RDPR.

In order to ensure that the system is effectively operated by the officials, the government is planning to allocate more funds and grants based on evaluating the progress of GPs with the help of the Pancha Tantra online system.

Lessons Learned

Reduction of manual work and enhancement of efficiency

The Double Entry Accounting System has reduced the time consuming and manual practices of keeping accounts with a computerised solution. Under the traditional system of accounting, the officials were required to write vouchers and make entries manually. Maintenance of accounts was inconsistent, incorrect, haphazard, outdated and varied drastically across the GPs.

The Pancha Tantra system reduces the need for manually preparing reports at the GP level and eliminates the requirement of maintaining new registers every year. With the computerised system, the process of preparing vouchers, maintaining ledgers, bank account details, collection and expenditure of details and such others is done automatically. The system extends maximum benefits in terms of transparency and uniformity in maintenance of accounts, better reporting mechanism, complete record of accounts, and accuracy and correctness of accounts.

User friendly interface

Pancha Tantra enables GP to implement the Double Entry Accounting System based on a simple and comprehensive mechanism. Without extensive training and assistance of accountants, the GP can generate necessary reports, statements, balance sheets and similar document on the click of a button.

Role based access to information

The system is designed to facilitate role based access to information. It is operated by different categories of users with varying roles and responsibilities. Role based access smoothens administrative functioning and improves the productivity of governance bodies through greater inter-organisational data sharing and increased information workflow between core departments. Secondly, the hierarchical design is premised on the separation of duties. This ensures that a user fulfils the assigned functions and does not need to serve other functions at the same time. The system ensures greater efficiency and effectiveness in the completion of tasks. Thirdly, as different categories of users have been assigned the tasks for entering data, receiving and processing accounts and releasing funds, misappropriation of funds and malpractices can be kept under check.

Greater accountability due to inbuilt monitoring mechanisms

The well organised accounting system facilitates better monitoring and improves accountability.

Under Pancha Tantra, the officials have to generate mandatory reports like financial statements, balance sheets and such other. The system is enabled to provide a bill only on the availability of accurate balance of accounts. Moreover, work details cannot be recorded without proper approval as payments can only be made once such a process is completed.

The system also assists officials and the public to monitor pending applications, requests, bills, schemes and such like and get information about the status of these requests in real time. This assists *taluk*, district and state level officers to monitor the functioning of GP on various fronts effectively.

Enhancement of transparency in government operations

The Pancha Tantra system is supported by transparent mechanisms of information dissemination. The performance and progress of each officer and the concerned authority is available to the public.

The *Samanya Mahithi* is a set of statistical records providing details about the level of education, health, agriculture and such crucial components and general information about a particular GP. The official website of the Pancha Tantra system enables the public to access this information including details about the GP members, officials, schemes, population and such others. Information on property tax, balance sheets, financial statements, assets and liabilities of a GP is also available through the website, in addition to details regarding *gram sabha* proceedings, participants and the decisions. This data is updated on a yearly basis.

Optimum utilisation of funds

The system guides GPs to engage in proper utilisation of funds. It enables the *taluk*, district and state authorities to release funds and grants on the basis of effective monitoring and assessment of the utilisation of funds and performance of GP in crucial areas especially with regard to the implementation of schemes.

Moreover, with the data available through the system, internal and external audit of GP can be undertaken smoothly. The auditors can use the data to verify and authenticate the bills, statements, reports, documents submitted by the GPs.

Challenges in Implementation

Traditional system of accounting

The Pancha Tantra system was introduced with the objective of integrating all GPs into a Double Entry Accounting System. All records maintained at the local level were based on traditional methods of accounting and budgeting. Moreover, in some cases, such records were not even maintained. Most importantly, these records could not be fed into the Pancha Tantra system because of its differing format. It was challenging, therefore, to ensure that all the records were converted into a desirable format and then incorporated into the system.

Absence of adequate technical know how

The GPs were unequipped to effectively operate a computerised application such as the Pancha Tantra online system. It required the RDPR to provide training and capacity building efforts to implement the application at the local level. It also involved the government to train the local level authorities in basic computer operations, accounting, implementing the application and such rudimentary aspects of the overall system. Moreover, getting a young and motivated team to take over day to day operations of the system also remains a challenge.

Absence of a robust infrastructure to support the application

One of the major challenges that constrained the successful functioning of the Pancha Tantra system was the irregular and limited supply of power. Besides, poor levels of connectivity also acted as a major roadblock during the initial stages of implementation. However, according to the RDPR, with state government's efforts to accelerate rural growth and development, these inadequacies have been addressed to a significant extent.

Absence of adequate levels of motivation

The Pancha Tantra online system puts into place an arrangement of governance that demands a certain level of accountability and transparency from the system. The effective operation of the application depends upon the commitment of local level authorities to fulfil their respective functions successfully. However, to a great extent, this is restricted because of the complacency and irresponsiveness that has penetrated deep into the system. It has remained a challenge therefore, to ensure that the existing governance structure can overcome these constraints and make itself more accountable.

Conclusion

The Pancha Tantra online system can be considered a breakthrough in improving the delivery public services based on transparent and accountable processes and practices of governance. It is a user friendly web based application that facilitates *gram panchayats* to fulfil their functions through effective monitoring of programmes and schemes, transparency in maintaining accounts, improved reporting mechanisms, accurate data entries and records and other such procedures.

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*Documentation was created by Research Associate, **Annie Vincent***

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Appendix A – Interview Questionnaire

Background

1. The Karnataka Panchayati Raj Rules, 2006 prescribe a 'Double Entry Accounting system' in all *gram panchayats* of the state of Karnataka. Can you explain the efficacy of the system in enhancing the functioning of local governance institutions? How is it different from the traditional patterns of accounting and budgeting?
2. Was the Panch Tantra system designed specifically in view of the recommendations prescribed under the 2006 amendments to the PRI Act?
 - i. If yes, how does the Panch Tantra system facilitate *gram panchayats* to incorporate the 'Double Entry Accounting System' into their existing functioning?
 - ii. If no, what factors were taken into consideration prior to the implementation of the web-based application?
3. How many *gram panchayats* have been covered under the initiative?
4. What is the role of the Rural Development and the Panchayath Raj Department in the project?
 - i. Are there any other stakeholders involved in the project? If yes, what are their specific roles?

Implementation Strategy

5. What kind of an infrastructure has been developed to support the regular operation of the application?
6. What specific technologies have been used in the project (hardware and software)? What preconditions were taken into consideration while developing the software?
7. Were the *gram panchayats* involved in any training and capacity building workshops?
 - i. If yes, what did the training sessions entail?
 - ii. How was it ensured that all *gram panchayats* in the state were capacitated to use the technology?

8. How is the monitoring and evaluation of the system undertaken? Which are the agencies involved in the process?

Financial costs

9. What was the cost of development of the Pancha Tantra system? How were the funds procured? Please provide a breakdown of the major heads of expenditure.
10. What are the daily operational costs of the project? What are the current sources of funding?

Challenges and Outcomes:

11. Pancha Tantra relies on the extensive use of technology. Did the project face any challenges in its initiation at the grassroots level?
- If yes, what were the major roadblocks and how were they addressed?
 - If no, what makes the system accessible and user friendly?
12. Are there any technical challenges that hinder the effective functioning of the project?
- If yes, what have been the major challenges?
 - What steps have been adopted to overcome these constraints?
13. What preconditions determine the sustainability of the initiative in the long run?
14. Are you planning to expand the scope of the initiative?
- If yes, what is being planned for upscaling the project?
 - Are you planning to involve other levels of administration in the initiative besides the *gram panchayats*?
 - Are you considering technological enhancements in the software? If yes, what steps have been adopted and how will this improve the efficacy of the system?

