



Tribal Co-Operative Marketing Development Federation of India Limited
Ministry of Tribal Affairs, Govt. of India

Technology Gap Analysis

TRIFED

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Technology Gap Analysis

TRIFED

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Executive Summary

S No	Application	Current Status	Remarks
1	MFP Development		
1.1	MSP for MFP Technology System	Not in use	Modified system which was passed by TRIFED is available. This can work as the basic information system for MSP for MFP scheme. Many components are missing from the original requirement, for example Receiving Applications and Sanction of MSP for MFP Scheme. Adding to the earlier point Procurement and E-auction process and complete supply chain technology need to be put in place. UAT and Tesing of application is done and approved by the department.

1.2	VDIS Portal	Not in use	System is available. UAT and Tesing Certificates are done. Proposals can be processed in the system. Value additons and other activities along with the reports are also captured in the application.
2	Information Systems		
2.1	TRIFED Website	Working	Basic information available. Price and market information is not there which was available earlier. Information is not-consistant and cluttered. Available in Hindi and English. Website is not very useful for the most important stakeholder, the tribals. Information architecture and design has to apeal the sensitivty and technical maturity of the intended beneficiaries.
2.2	GIS Portal	Working	Basic information available. Next level information and engagement is not available. The expansion of the application is required to be beneficial to the scheme.
3	Retail Marketing		
3.1	RIS System	Working	Current system is in use for the stores. System is not integrated with other applicatiions and financial systems. An integrated Retail Management Software is required to manage the marketing development and sales activities of TRIFED.
3.2	E-Commerce Interfaces		
3.21	Tribesindia.com Domestic Portal	Working	E-Commerce has a potential to multi-fold the domestic market size. Activities are not up to the mark to achieve the same. The organisation's focus and strategies for e-Commerce need to be redefined. TRIFED should not focus on the development of technology, but should rather focus on business outcomes and facilitating the involvement of maximum tribal beneficiaries. Technology development can be entrusted to partners with expertise in the same.

3.22	Tribesindia.org International Portal	Working	International business of global site for TRIFED e-Marketplace is miniscule. Global e-Commerce showcasing different variety of tribal products has potential to be large business market for these products. The market is already sensitised for socially relevant products such as handicrafts and a ready market offshore for the same. There is a need for a market strategy to exploit the global opportunity through e-commerce with the right partners. This can be done through a think tank as well. TRIFED can focus on capitalising the demand for handicrafts and tribal products to build a conducive consumer pipeline through its area of influence and bottom-line marketing.
3.23	Partner Portals (GeM E-Commerce Amazon, Flipkart, PayTM and Snapdeal E-Commerce)	Working	Products are available on Amazon and Flipkart. Could not verify the products listing on other platforms. In addition to this, a think tank is required that can work in coordination with experts, partners and consultants from the domain, to not only ensure the desired outcomes but also take ownership of the same. They can maximize the benefits that can be extracted from the partners such as GeM, Amazon, Flipkart and PayTM. New partner engagement and ensuring business outcomes will also be the responsibility of the E-Commerce Think Tank.

Chapter 01: Understanding TRIFED

1.1 WHAT IS TRIFED

The Tribal Co-Operative Marketing Development Federation of India (TRIFED) was set-up by the Government of India as National level Cooperative in 1987 under the administrative control of Ministry of Tribal Affairs. It was established with the basic mandate of bringing about socio-economic development of tribals in the country. This was to be done by institutionalising the trade of Minor Forest Produce (MFP) and Surplus Agricultural Produce (SAP) collected/cultivated by tribals.

As a market developer and service provider, the objective of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products on which the lives of tribals depends heavily as they spend most of their time and derive a major portion of their income. The philosophy behind this approach is to empower tribal people with knowledge, tools and pool of information so that they can undertake their operations in a more systematic and scientific manner.

The approach involves capacity building of the tribal people through sensitization, formation of Self-Help Groups (SHGs) and imparting training to them for undertaking a particular activity, exploring marketing possibilities in national as well as international markets, creating opportunities for marketing tribal products on a sustainable basis and creating a brand.

To attain these objectives TRIFED undertakes activities with respect to its two main divisions:

1. Minor Forest Produce (MFP) Development
2. Retail Marketing and Development

1.2 MINOR FOREST PRODUCE DEVELOPMENT

Non-wood Forest Produce or Minor Forest Produce (MFP) have long been identified as an important source of livelihood for tribal people. MFP not only provides both subsistence and cash income to the people but also forms a major portion of their food, fruits, medicines and other consumption items. This includes all non-timer forest produce of plant origin and includes a range of products such as bamboo, canes, leaves, gum, waxes, dyes, resins and many forms of food including nuts, wild fruits, honey, lac and tussar.

1.2.1 Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP

The perishable nature of the produce, lack of holding capacity, lack of marketing infrastructure and exploitation by middlemen and low government intervention at the required time however, are some challenges that people who depend on MFP confront. The Ministry of Tribal Affairs to ensure fair returns and as a solution to the problems they were facing introduced the “*Mechanism for marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP*” as a measure of social safety for gatherers in 2013. The objective of the scheme was to establish a framework for ensuring fair prices for tribal gatherers, primary processing, storage, transportation etc. while ensuring sustainability of the resource base.

Development of value chain in MFP along with training for tribal gatherers, infrastructure support (storage, warehouses etc.), clustering them for improving their bargaining power, giving them access to timely credits are some of the components that need to be in place for realizing the intended benefits of the scheme and benefit the tribal population.

1.2.2 Van Dhan Yojana

Van Dhan Yojana or Van Dhan Scheme is a component of the MSP for MFP Scheme and Development of Value Chain for MFP which was launched in 2018 as a plan for socio-economic development of the tribal population in the country.

The scheme aimed at setting-up community-owned Van Dhan Vikas Kendra Clusters (VDVKCs) in predominantly forested tribal districts to ensure livelihood generation and empowerment of tribal

people. The programme aims to tap into traditional knowledge and skill sets of tribals by adding technology and IT to upgrade it at each stage and to convert the tribal wisdom into a viable economic activity.

The Kendras would act as common facility centres for procurement cum value addition to locally available MFPs. Value addition of raw produce is expected to increase the share of tribals in the value chain to 70-75% (from the present share of 20-25%). Each VDVK cluster constitutes about 15 tribal SHGs/Van Dhan Kendras, each comprising of up to 20 tribal NFTP gatherers or artisans i.e., about 300 beneficiaries per cluster.

Both of these programmes under TRIFED are in line with the “The Scheduled Tribes and Other Traditional Forest Dweller (Forest Rights Act, 2006)”, a key forest legislation passed for securing protection and livelihood of poor tribals and concerns with the rights of forest-dwelling communities to land and other natural resources.

1.3 RETAIL MARKETING AND DEVELOPMENT

TRIFED aims to improve the livelihood of the tribal communities by creating a sustainable market and create business opportunities for tribal people. It involves exploring marketing possibilities for marketing of tribal products on a sustainable basis, creating brand and providing other necessary services. It has a network of 14 regional offices across the country which identifies and source tribal products for marketing through its retail marketing network of 119 TRIBES INDIA outlets.

It has been undertaking sourcing of various handicraft, handloom and natural & food products through TRIFED has been marketing tribal products through its Retail Outlets located across the country and also through exhibitions. It has established a chain of 35 own showrooms and 8 consignment showrooms in association with State level Organisations promoting tribal handicrafts.

In terms of Retail Marketing, TRIFED as an organisation, focuses on three major activities:

- 1 Sourcing of Tribal Products
 - a. Products
 - b. Empanelment of Suppliers
 - c. Selection and Purchase of Products
 - d. Channels of Sourcing
- 2 Sale of Tribal Products
 - a. E-Commerce- TribesIndia.com/org
 - b. Retail Outlets- 114
- 3 Publicity Strategy
 - a. Exhibitions
 - b. Aadi Mahotsav

1.4 NEED FOR TECHNOLOGY

Empowering the tribal population of the country is a mammoth task. In today’s digital and intricately connected world manual processes are sometimes not sufficient to bring about the desired outcomes

that the initiative intended. A robust technology ecosystem in such a scenario, is required to ensure grassroots reach of the various programmes and initiatives aimed at socio-economic welfare of the tribal people. For TRIFED, as an organisation, it optimises its role as a facilitator and service provider by making the entire ecosystem available, transparent, effective and efficient. The TRIFED website, for instance has been providing market prices for MFPs across different mandis/places in the country. There was also system in place to capture the information from different stakeholders and display the same on its earlier website. A Geographic Information System (GIS) was also built to display the basic information about VDVVs, Location of Tribes India Retail Stores, Warehouses, Geotagging etc.

A technology system further, would help with implementation of various programmes like the MSP for MFP and Van Dhan Scheme. Execution of programme this wide spread requires a full spectrum of technology to enable the process of identification and unification of gatherers; creating SHGs; accepting, processing and approving SHGs; setting and operationalising of VDVVs; training and value addition handholding of SHGs- harvesting, collecting, storage, marketing, selling, distribution and apply of MFPs and value-added products. Technology subsystems are also required to manage the complete retail infrastructure and processes. Online selling through various e-commerce channels has also created new avenues for the consumption of tribal products. It has also created a robust partner network that help in achieving better result.

Technology, finally, enables effective governance and implementation of various welfare programmes run by TRIFED for all stakeholders and internal working of all these stakeholders including TRIFED.

TRIFED Efforts in Building an Integrated Technology System

An integrated technology system was envisaged in different stages to create a single view of the outcome. To achieve the above, the following systems were planned in different stages at TRIFED:

1. MFP Development
 - a. MSP for MFP Technology System
 - b. VDVV Portal
2. Information Systems
 - a. TRIFED Website
 - b. GIS Portal
3. Retail Marketing
 - a. RIS System
 - b. E-Commerce Interfaces
 - i. Tribesindia Domestic Portal
 - ii. Tribesindia International Portal
 - iii. GeM E-Commerce
 - iv. Amazon E-Commerce
 - v. Flipkart E-Commerce
 - vi. PayTM E-Commerce
 - vii. Snapdeal E-Commerce

Chapter 02: Application Analysis

2.1 INTRODUCTION

This chapter of the study outlines the analysis of the integrated technology system envisaged in different stages at TRIFED. This includes analysis of technology systems built for the 1) MFP Development (MSP for MFP Technology System and VDVK Portal), 2) Information Systems (TRIFED Website and GIS Portal) and 3) Retail Marketing Systems (RIS and E-Commerce interfaces). This has been achieved by understanding the initial scope, overview and current status for the technology systems. This is followed by analysis and recommendations for each of them. The challenges faced by research team during the study have also been covered in this chapter.

2.2 CHALLENGES FACED

One of the many challenges that research team faced was the lack of complete information on various technology systems developed over the years. It was difficult to get information related these systems and sequence the whole trail of application activities. Concerned departments do not have complete

control of the application and related information. The piece of ownership was missing for the complete for respective pieces of technology from the departments. This made connecting threads and digging out a single piece of truth a daunting task for gap analysis of the said project. The section below consists of some pieces of analysis that could be gathered after going through multiple rounds of meetings, workshops, demonstrations and one-to-one interactions with concerned departments at the organisation. The purpose of analysis, despite these challenges, is not to find faults in the system but create a corrective path for the right progression of the organisation and empowerment of beneficiaries at the grassroots level.

2.3 UNDERSTANDING SCOPE OF WORK FOR MFP DEVELOPMENT

This section of the study underlines the initial requirement of the department for creating technology systems for MFP Development. The scope was modified from time to time with certain new changes made to it over time. It helps understand the department's requirements on the basis of which the project was awarded and SRS created. Applications (Web and Mobile) for both MSP for MFP and VDVK Portal were an outcome of this requirement as well.

2.3.1 Baseline System

1. The proposed technology platform shall facilitate Field Survey and dashboard:
 - a. Enrolment/survey of tribal gatherer families for formation of Van Dhan SHGs
 - b. Survey of Haat Infrastructure
 - c. Survey of warehouse infrastructure
3. Mobile App for collection of information as per survey forms
 - a. SHG details
 - b. Haat Bazars
 - c. Warehouses
 - d. SHG training
 - e. Schedule and reporting formation of SHGs
4. Server-side software application for central database, progress views of survey and sensitization programmes, training content application, reports
5. VDVK Web portal containing listing of all Haats, Warehouses, SHGs and Gatherer details (data collected at the time of survey)
6. Reporting engine and dashboards: National level, State level, District level, stakeholder reporting role-based access, automated reports: Survey and SHG formation
7. Communication framework- Project information communication among all stakeholders, stakeholder directory
8. Progress reporting: TRIFED regional offices

2.3.2 MSP for MFP and Van Dhan Scheme

TRIFED under Ministry of Tribal Affairs is specifically managing the scheme with three components as follows:

- Procurement of minor forest produces at minimum support prices to provide fair and remunerative returns to the tribals for their efforts towards collection of minor forest produces

- Infrastructure development such as modernization of haat bazars, setting up small storage facilities etc. to develop the value chain of minor forest produces
- Training component names as Van Dhan Vikas Karyakram to promote value addition in MFPs among the tribals for enhancement of their income.

These programmes are to be IT enabled and reports are to be made available on a GIS platform. The proposed IT platform should have mechanism for storing data on procurement, link for auction on e-Rakham and monitoring.

Provision for procurement of Minor Forest Produces (MFPs) at Minimum Support Price is an important strategy of Ministry of Tribal Affairs to stabilise prices. The responsibility for such procurement interventions lies with the District Collectors. The information about quantity procured, Amount spent, Stock lying in warehouses, losses due to various reasons etc are required to be closely monitored against budget components of Rolling Funds, Overheads, Provision for losses, Service charges etc., for effective implementation of the scheme

Schematic Process Diagram as follows:

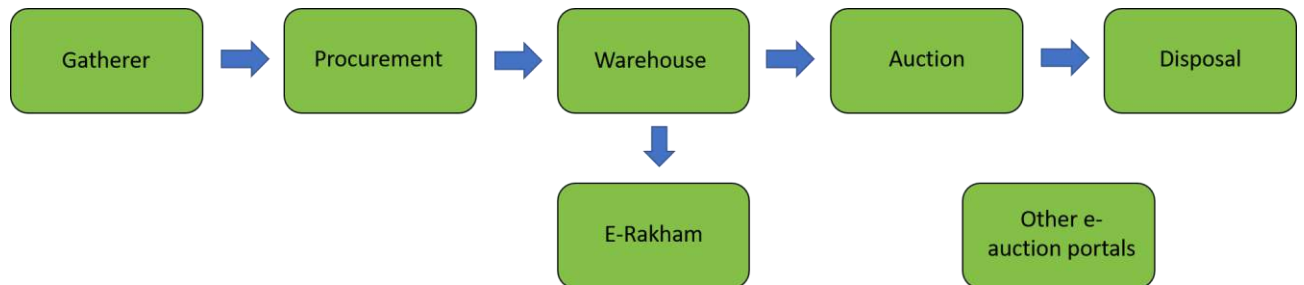


Figure 2. 1 Schematic Process Diagram of MSP for MFP and Van Dhan Scheme

1. Recording of Transactions: Gatherer to Procurement agent
2. Stocks inward at warehouses and stock reporting
3. Payment accounting
4. Porting Quantities to Auction Portals
5. Disposal recording and reconciliation

2.3.3 Price Information from Haat Bazars

For timely procurement interventions, it is necessary to track market prices in haats near tribal habitats so that the District Collector can take decisions for Procurement of MFPs to stabilise prices.

- Mobile App form would be needed by the Price Capturing Agent (PCA) to capture various MFP prices at regular intervals (pre-defined) at their corresponding Haat Bazars
- Central Monitoring team will suggest right authorities (DM, Nodal Agency) in corresponding state to start sending advisory to implementing agency to start procurement of MFPs

The schematic process is as follows:

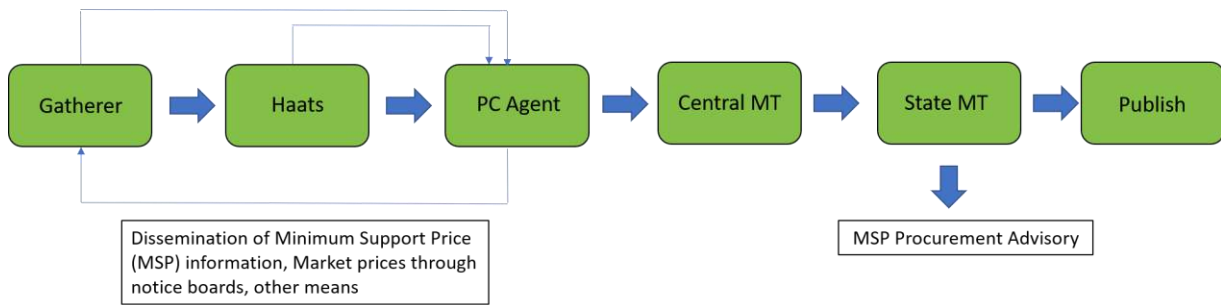


Figure 2. 2 Schematic Process Diagram for Price Information from Haat Bazaars

1. Recording of Market Prices for 50 MFPs from all Village Haats across the country
2. Monitoring by CSC DM
3. Price trend plots for District implementation units and District Collector to trigger MSP procurement as required
- Dissemination of MSP at Haats by CSCs.

2.3.4 Receiving Applications and Sanction of MSP for MFP and Van Dhan Scheme

Detailed formats have been prepared for submission of Proposals by TRIFED

Process flow:

- Compilation of information starts from PMU at District Level
- Separate forms are available at District and State Levels

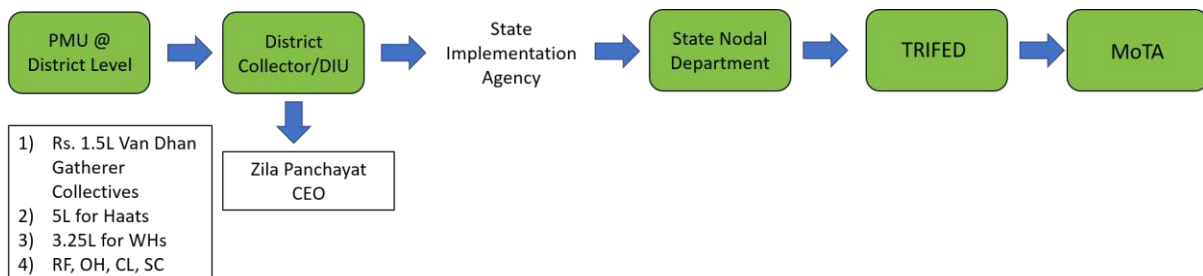


Figure 2. 3 Process flow for receiving applications and sanctions of MSP for MFP and Van Dhan Scheme

1. Digitization of Proposals as per format for PMUs to initiate
2. Workflow based system to process the Proposals through DIU-State Nodal Department-TRIFED, Executive Committee and MoTA
3. Admin trails and status report
4. Dashboards

2.3.5 Van Dhan Activities of Training

Tribal Gatherers through a survey are to be formed into Gatherer Groups of 20 members (clustering 300-member larger groups). These groups are to be engaged into Van Dhan value addition activities providing them premises from Panchayats depts. First level of sensitization and training, MFP specific training: harvest, handling to value addition processing

Various reports are to be generated at different levels as per the following diagrams

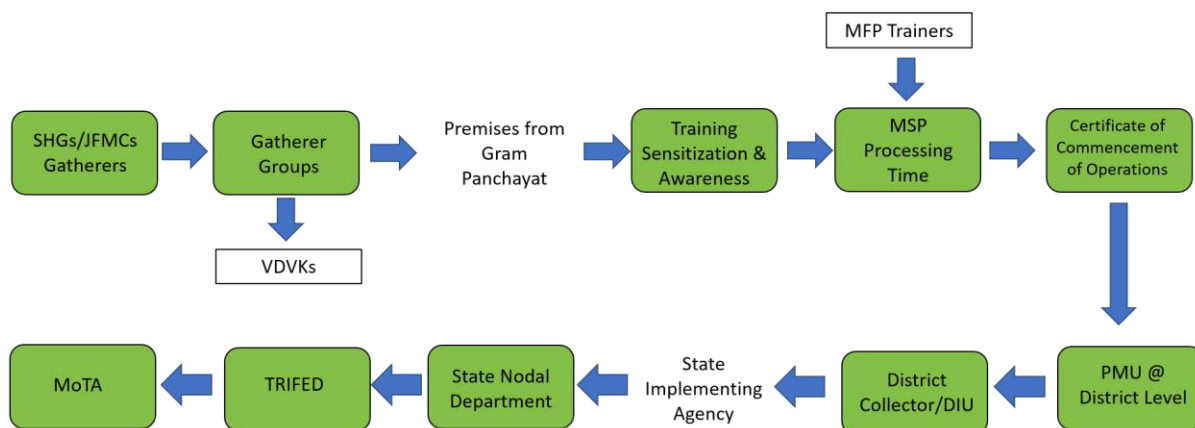


Figure 2. 4 Process flow for report generation under Van Dhan activities of Training

2.4 MSP FOR MFP APPLICATION

2.4.2 Current Status

The application in its current form is an MIS (Management Information System) platform that provides information on purchase and sales of the forest produce by district or state agencies. The system is helpful in understanding the price of MFPs, demand and supply fluctuations, warehousing capacity required, cross collaboration of district and state implementing agencies, fare price, decision of MSP, development of processing units/clusters etc.

The application developed for MSP for MFP is not currently in use. The concerned department at TRIFED does not have information and complete access to the application. A demo for the same was provided by the vendor to IIPA research team in presence of TRIFED. It helped the study team understand the progress as well as challenges related to the application.

According to concerned department, the application in its current form is not useful. The original scope of the project was modified before its completion. The application has also received its UAT (User Acceptance Testing) and completed the required security testing. The vendor has also obtained several completion certificates with reference to the application.

2.4.3 Analysis

1. UAT was done and completion certificate was provided.
2. The application has been tested by STQC.
3. Administrative control of the application is not with TRIFED. The administrative control and source code handover should be taken up by the IT team.
4. User management is working. More roles and users can be added by the vendor on request.
5. The platform does not have any provision of adding the overheads, logistics and other costs associated with the transactions to calculate the actual profit and loss in the system.

6. The application has the capability to incorporate the heads, department needs to share the knowledge with the vendor to incorporate the same
7. Department need to revisit the whole requirement and see what components can be utilized in the current application. The status-quo-pro will not help. Somebody will have to take the ownership to take it forward. Right now, everything is in frozen state and department is not taking any decision.
8. The platform is ready to use in its current form and can be modified with correct requirements for the MIS and report generation of MSP for MFP

2.4.4 Recommendation

The technology spectrum required to fulfil the objectives of the MSP for MFP Scheme is expansive. It has too many components that require very specific technology domain expertise. TRIFED's attempt at developing a whole technology system to facilitate the same was thus a difficult task that was even felt by the management at different stages of development. Additionally, TRIFED wasn't ready to deploy and use such a complex system. This was another reason to alter the created system into a simpler one.

The research team, given the complexity of the system required is also of the view that MFP procurement and e-auction for bulk sale technology should not be developed internally, but should instead be executed through partners. India has been able to develop a robust and healthy technology ecosystem for e-procurement and e-auction and these should be utilised. TRIFED should rather focus on grassroot level empowerment and the business outcomes part of it. The task of technology management, supply-chain, payments, marketing and sales can be handled partners with expertise in the same.

The whole process of engagement, preparedness and monitoring can be executed via a third party. Any identified organisation can handhold the whole process of partner engagement, grassroot training and preparedness at the level of VDVKs. They can also provide the required internal training required at TRIFED to successfully implement the same. TRIFED in such a context can dictate policy and focus on the outcome of the programme. The current MSP for MFP system can work on top of this programme to provide MIS and dashboard to the management and different stakeholder for better decision making.

2.5 VDIS PORTAL

The Van Dhan Yojana or Van Dhan Scheme, a component of the 'Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) & Development of Value Chain for MFP' was launched on 14th April 2018. The scheme is being implemented by TRIFED as the nodal agency at the national level. The Van Dhan Integrated System (VDIS) portal has been designed to facilitate the same.

2.5.2 Current Status

The integrated system created for facilitation of the Van Dhan Scheme is not in use. The system in its correct form was partially used for capturing the information of gatherers to build SHGs. The process of submitting proposal application and sanction of the same can be done through the system. Some applications on this aspect of the scheme were implemented through the system developed. Since the department is not using the current system, all the applications and sanctions are handled manually.

The justification from the department for not using the that emerged during interaction with them seemed flimsy and doesn't have solid grounds.

2.5.3 Analysis

1. The application can do the following: Digitization of State Proposals, Dashboards: Workflow based system to process the Proposals, PFMS integration, Admin trails and Status reports. The application is tested and used for the proposal process in the system. Monitoring of Van Dhan Project implementation activities and training etc., need to be tested and checked by the department.
2. Currently all the proposals are handled manually.
3. The UI/UX of the website has scope of improvement. It is not very user friendly.
4. The application pages are very slow to load. It is very important to optimise the application for successful use. This needs to be modified by the vendor on top priority.
5. The website lacks the security parameters and users are able to see a glimpse of the dashboard without a login id or password just by entering the URL on the browser directly: <https://trifed.tribal.gov.in/vdvk/auth/dashboard.php>

2.5.4 Recommendation

1. The technology has been built as per the requirements of the organization. Completion certificate has been issued and UAT is done for different applications. But TRIFED staff have not made sincere efforts to use the technology which has been created on their requirements. Even if the technology systems do not completely match their requirements, efforts should have been made to move forward by utilising the developed system and attain build in next level of maturity overtime. The staff currently is in their comfort zone and would like to stall use of said technology within the organisation. The department needs to provide the usage numbers and the future scale of use of the application. In absence of the above, the vendor will not be able to size the hardware and software requirements for the same.
2. It is very important for the department to start using the system for the proposals and take it to the next level of maturity. Currently all the proposals are handled manually. The management need to build a policy to accept all the new proposals only through the platform.
3. *Staff Motivation and Utilization of Technology*
There is a serious lack of motivation amongst the TRIFED staff members to utilise the technology developed. When an organisation embarks on the task of implementing technology at such a level, understanding organisation readiness can be critical for the success of the same. Change management currently is the biggest hurdle and people need to be continuously trained to undergo/accept changes smoothly.
4. VDVK is an important component in the empowerment of the tribals and VDIS Portal will be a critical piece in execution and monitoring of its activities. Targets and outcome-based approach should be taken by TRIFED as far as VDVK activities are concerned. Information Technology strategy and management should be handled by the technology experts. Information needs to be captured, validated, checked and measured across each project. A guided system needs to be put in place to get the information across all VDVKS and SHGs. The technology competency of the target user group is a challenge and can hinder the successful implementation of the same. This additionally requires close coordination, handholding and continuous training to achieve the set targets for the same.
5. Training for value addition to MFP, marketing, sales, negotiation, partnerships, digital payments etc. is already happening through different the instructor led training programmes. But training as stated above is also required for use of developed technology in different

scenarios. Additional training programmes are hence required that can be used on the need basis continuously for the upgradation of knowledge to different stakeholders. These programmes need to be in vernacular languages and multimedia heavy to enable easy understanding and comprehension. A lot of the content should be built continuously using multimedia and available at different VDVK centres via e-learning mode (self-paced through mobile, display screens, other teaching support aid, online live training programmes). A separate app for learning can fill in a lot of existing knowledge and skill gaps.

2.6 TRIFED WEBSITE

2.6.1 Current Status

TRIFED website was part of the Composite IT Project awarded in September 2019 through NICSI. The requirement was to build the website with the following features: role based user management, development of CMS, content management workflow, resource person directory, career notices management, Feedback module, news and announcement module, tender notices module, circular management, scheme management, press releases and success stories module, flash news management, photo gallery module, publications and annual reports module, banner management module, external links to important projects, links to social media, archives management module, visitor counter and FAQs management. The website was to have GIGW compliance and STQC Audit Certificate along with the safe to host certificate.

Before the development of the new website the old website used to have pricing information of different markets of the MFPs and a mechanism was in place to collect and disseminate the information. In the new Composite IT project this was moved to the application of MSP for MFP and the android app for the same.

2.6.2 Analysis

1. TRIFED website has been developed as per the requirement and running with all the components. It is based on a CMS and can be modified as per the need.
2. The website refers to the specific community but it is not connecting users with the ideology and vision of the website. The website has to be more sensitive to the needs of the most important user the tribals.
3. The information architecture of the website needs to be revisited. The clutter can be reduced. Information on the website is not consistent.
4. The website is not following the awareness funnel properly. Elements are clashing and there is too much-unplanned content on a single page.
5. The data and content are not segregated properly and in general looks very cluttered. Many links on the website are not working. Some of the directories are not available on the website.
6. The speed of the website is very slow and it fails to pass Google's Core Web Vitals Assessment on both Mobile (Figure 2.2) and Laptop (Figure 2.3).



Figure 2. 5 Page Speed Insights as per Google Core Web Vitals Assessment for TRIFED website on mobile



Figure 2. 6 Page Speed Insights as per Google Core Web Vitals Assessment for TRIFED website on desktop/laptop

7. The website is not SEO Ready (Figure 2.4) and missing many search engine compliances.



Figure 2. 7 Missing components to enable SEO for TRIFED website

2.6.3 Recommendation

TRIFED website is a complete information corporate site. Earlier version of website was also capturing and displaying MFP prices of different markets and that information was also available to all the stakeholders. While changing the website this functionality was moved to android app and other applications. These applications are not in use and hence this functionality is no longer available.

A new information architecture is required to structure the whole content again. Information and data are not consistent and need to be checked for authenticity. Broken links and missing data need to be taken care of.

Website should have more engaging content.

Empowerment measurement dashboards should be available and connected with the website.

2.7 GIS PORTAL

2.7.1 Scope of Work

A GIS based framework for Tribal Affairs to represent data with geographical visualisations at various levels: states, districts, blocks and villages was envisaged by TRIFED. The proposed system was expected to include boundaries of States, Districts, Taulkas (Blocks), Villages with Census 2011 data, Forest cover information, tribal dominant villages (50% or more), 307 districts with significant tribal population- where it is proposed to set up Van Dhan Kendra and enhance Haats, Warehouses (District level) etc.

The system while filtering village tribal population, should include selection option as below/above 40%, above 20% etc. which would help in better planning of policies for Tribal groups. It should also be able to incorporate details of mineral resources available in Tribal prominent villages and revenue generated from the same.

Progressively add development information about tribal villages profiling about schools, roads, graduated, skilled and unskilled population, forest, water bodies etc. Idea will be to build an information base to access to facilities, livelihoods and other socio-economic indicators: roads, transport facilities, electrification, irrigation, drinking water, fair price shops, anganwadis, primary/secondary schools, healthcare: PHC, Sub Centre, Chemists, Livelihoods, Migrations etc.

The map should be capable of providing information from multiple databases in different layers with additional parameters in the future.

- The security audit and STQC certification have to be conducted
- The successful agency/vendor will have to integrate an e-mail gateway in the website for event-based reminders/notifications/alerts etc. The APIs of this gateway will be provided by the department
- As per GIGW Guidelines, SSL Certificate will have to be provisioned for. The same has to be proposed by the vendor and integrated into the application. The procurement of SSL certificate will be done by TRIFED
- Some of the content/data/dashboards/listings from the application will need to be displayed on website through web-services

2.7.2 Analysis



Figure 2. 8 A glimpse of the current GIS System under TRIFED

TRIFED GIS has mapped all Regional Offices of TRIFED, Outlets (Own, Franchisee & Consignment) and VanDhan Districts on the map. First version of GIS has been created and is available with basic information sets. But the idea of GIS was to build intelligence through this data set by knowing the density of tribal population, working population, MFP gatherers and other demographic features, all of which was seen as a pre requisite to help design the right programmes and effective execution of the same.

Availability of MFPs and their volumes with geo-referencing will help in proposing a high value demand supply plan for the region. Fair distribution of grant, revenue and other benefits for tribals, in both accessible and non-accessible areas, will also be more visible using a map.

GIS requirements can thus be inferred to have been implemented partially. Data captured by the VDVK Android App is not visible on GIS. The same data was to be shown on the website through APIs. Integration of GIS application developed and available on the website with the VDVK application has also not been done.

2.7.3 Recommendation

The idea of a GIS based decision support system (DSS) was to have a more visual tool with different layers to enable more effective and efficient decisions for the empowerment of the tribals. A GIS based system gives more real-time geo-impact analysis of the different control systems. This can also help in predicting region and time wise demand and supply, price variation and distance analysis, order fulfilment with right collaborations, harvesting and value addition activities with more profitable and sustainable development to the tribal communities. TRIFED should engage a partner to map the different metrics with right outcomes for the said activities and do the cost-benefit analysis with a sustainable development plan in place.

2.8 RETAIL MARKETING

2.8.1 Scope of Work

TRIFED has embarked on an ambitious programme aimed at benefitting about 5 lakh tribal entrepreneurs and artisans. It has developed a tribal centric portal for tribal artisans to sell their produce across India. Tribal e-marketplace would be centralized e-commerce platform for Tribal Entrepreneurs and artisan to set-up their online shop and directly reach out to India as well as global customer base. In other words, customers around the world have direct access to Indian Tribal offering, their natural produces, artworks, fabrics etc.

TRIFED Regional Offices (RO) will play an important role in their business setup. Each RO will hand-hold the tribal in setting up their shop, proved needed training(s) to groom them and help in doing ecommerce business.

Expected product catalogue size 1000 sellers per RO and on average 100 products per seller

The overall objective of this project includes:

1. Realtime System Driven Inventory Management System
2. Warehouse Management System
3. E-Marketplace

The objective of the project to develop/integrate/implement and run e-marketplace for Tribes India operations:

1. An agency shall be required to create and commission Tribes India e-marketplace retail portal with mobile app (iOS/Android) for India and Global Markets with end-to-end functions following ecommerce operations-
 - a. Order Processing
 - b. Payment Gateway Integration
 - c. End to end logistics support
 - d. Return/refund functionalities
 - e. Customer Care Support/Helpdesk Management
 - f. Any other functionality that is needed for seamless ecommerce operations as per prevalent industry practice.
2. The agency shall be required to manage fully integrated system driven warehouse management system in proper syncing with Tribes India Retail Portal
3. The agency shall be required to manage fully Integrated Realtime Retail Inventory Management System in proper syncing with Tribes India ecommerce store.
4. The agency shall be required to complete legacy data reconciliation and migration
5. The agency shall be required to Digital Marketing i.e., Search Engine Optimisation (SEO), Social Media Optimisation (SMO), Big Data analysis in order to optimise overall sale through ecommerce portals
6. The agency shall be required to do the Brand Marketing and Affiliate Marketing of the ecommerce portal
7. The agency shall be required to develop mobile apps (android/ios) for Tribes India e-marketplace portal

The retail e-marketplace portal to include:

1. Mobile friendly interface with responsive web design approach
2. Refined navigation and content architecture to make it easy to users

3. Designed with latest UI/UX design as per international standards
4. Web portal needs to be fast and smooth (easy checkout flow, caching, low page load time, rich content with no broken links and image sizing)
5. Easy to use, attractive GUI keeping the targeted audiences in mind.
6. Responsive layout compatible to standard mobile devices, laptops & PCs
7. Homogenous keyboard use, screen layout and menu operations with Graphic User Interface (GUI) support
8. Capability to setup logic, to trap conditions to pop messages in response to conditions like logical data entry errors, certain conditions etc.
9. Confirmation/warning windows for delete, changes etc
10. Consistent screen layouts and access methods across all modules for same look and behaviour
11. The end user interface shall be browser independent and compatible to all the latest versions of popular browsers like Mozilla Firefox, Internet Explorer, Safari, Google Chrome, Microsoft Edge etc. and operating systems like Windows, Mac OS & Linux
12. Integrated with email/SMS gateway for notification at required stages

2.9 RETAIL INVENTORY SOFTWARE

2.9.1 Current Status

TRIFED has operationalised Retail Inventory Software (RIS) in all its Tribes India Outlets, Regional Offices and Head Office for inventory control. The entire purchase of tribal products, stocks in/out and sale are made through Retail Inventory Software across the country. The electronic mode of system available at all its Regional Offices and outlets streamlines the entire retail operations from purchases up to sales by automating the transaction process and tracking important purchase, stocks and sales data. The system includes an electronic payment register and software to capture and coordinate data collected from daily movement of stocks (through purchases/stock in/out and sales) and network of data-capture devices, including card readers and barcode scanners and printers. The Inventory Software implemented by TRIFED is integrated with Purchase orders, Supply chain management, management of outlet operations, offering of various discount schemes, etc. based on which major decisions regarding Retail operations and financial planning are taken by the Management.

The existing Retail Inventory Software (RIS) has been further improved for reporting age-wise/batch-wise stocks for better control of stocks so that different discounts schemes could be given as per age of stocks. Besides, iRetail Android POS is also proposed to be operationalised for on-the-spot billing and effecting movement (to & from) of stocks for exhibitions. The arrangement is also being put in place for on-the-spot billing of artisan sale during exhibitions.

All types of reports at Head Office, Regional Offices and Outlets pertaining to purchase, sales, stock transfer, ageing of stocks, discounts/offers, stock position etc are being derived and monitored through this software. Further, the overall reporting system in the software is being improved for seamless analysis and reporting of information to the management for overall monitoring and taking day to day decisions. The purpose is to bring overall efficiency and effectiveness in our Retail Operations. The software provides reporting tools through which status of Indenting, purchases stock, sales and its movement can be monitored at outlet level, RO level by Head Office. Similarly, ROs can monitor all these aspects for their region. Necessary inputs for this monitoring are picked from the purchase orders placed by RO and sales made at the outlets. Appropriate authorisations and validations at different levels have been incorporated to identify the responsibility and monitor performance.

This is a window-based software, and the client uses a separate license for the type of stakeholders of the system.

2.9.2 Analysis

1. Currently, tally is being used for accounting purposes, and there is no integration between the tally and RIS. Each data is uploaded manually in both places.
2. Since the data is uploaded manually in both systems, there are many chances for data discrepancy & duplicity.
3. Lots of Manual Intervention
4. No integration with other internally used platforms/solutions.
5. Multiple time efforts are required to update the data.
6. All centres and users don't have access to real-time data.
7. Obsolete technology and approach have been used, which makes scalability difficult.

2.9.3 Recommendation

An integrated Retail Management Software is required to manage the marketing development and sales activities of TRIFED. Retail business is one of the core activities of TRIFED offers to the targeted community. The retail system should also have the CRM inbuilt in the system and should be extended to both stores and e-commerce outlets. Warehouse Management can be built as an additional component to the system. Accounts, tax, statutory compliances and forecasting should also be integrated with the system.

2.10 TRIBES INDIA E-MARKETPLACE

2.10.1 Current Status

The Tribes India e-Marketplace is an ongoing e-commerce initiative of TRIFED to connect the tribals to the mainland of India by empowering them and branding their products over a digital platform through multiple channels and selling them through online and offline mediums which involve B2B and B2C modes.

This online store provides a large variety of products such as Clothing & Apparel, Van Dhan Naturals, Jewellery, Paintings, Artifacts, Metal Crafts, Woodcrafts Pottery, Home & Living and other products along with their state-specific GI tag associated with the product which leads to the popularity of that particular region

Domestic E-Commerce Marketplace: <https://www.tribesindia.com>

Global E-Commerce Marketplace: <https://www.tribesindia.org>

2.10.2 Analysis

1. E-Commerce has a potential to multi-fold the domestic market size. Activities are not up to the mark to achieve the same.
2. Social engagement is not good. It is not converting the potential customers into paying customers and patrons.
3. Customer reviews are not replied back to, customer care is not taking care of negative publicity or responding to the harassed customers

4. No focus on customer retention, brand loyalty, creating brand ambassadors and reducing sales time.
5. The UX of the website is not connected with the ideology and vision of the government to promote the tribal product.
6. The performance of the website is lagging on mobile devices.
7. 20% commission e-Commerce technology vendor is high for E-Commerce transactions and not sustainable

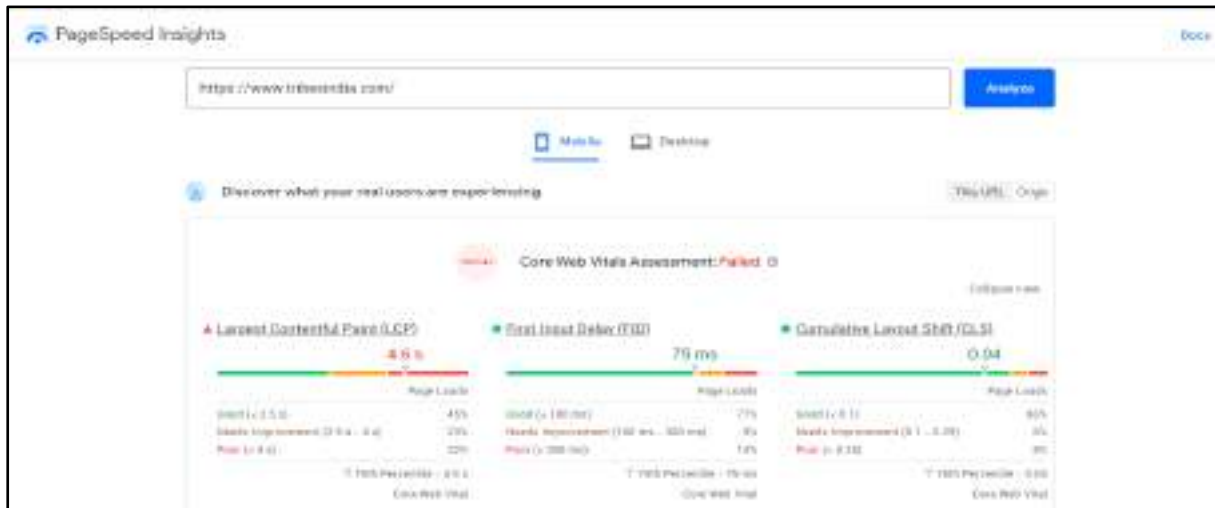


Figure 2. 9 Google page speed insights for the TRIFED e-Commerce platform on mobile

8. The guest checkout option is not available on the website.
9. The traditional method of filling in the Billing and Shipping Address is used in which the user has to type the complete address.
10. Shipping or delivery time based on Pin Codes is missing from the website.

11. Most of the modules are not cross-browser and mobile responsive (Figure 2.10).

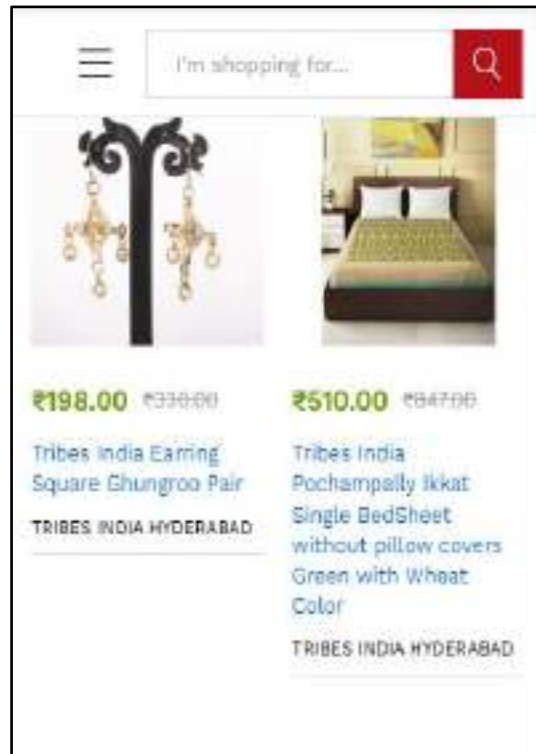


Figure 2. 10 A glimpse of mobile responsiveness of TRIFED e-Marketplace

12. The images are uploaded directly to the website in .jpeg or .png format.

2.10.3 Recommendation

1. Strategies for the E-Commerce need to be redefined. TRIFED should not focus on the development of technology. Technology development should be done by partners and TRIFED should focus on the business outcomes and involvement of maximum tribal beneficiaries.
2. Technology based training systems are required to enable more beneficiaries to onboard the E-Commerce bandwagon.
3. A complete Social Media strategy is required for better engagements.
4. Work around Consistent brand message, proactive customer support, understanding your customer journey and personalize customer experience
5. More focus on delivering omnichannel customer experience, enhancing conversational commerce with bots and Visual engagement tools.
6. International business is minuscule on the global site. Global E-Commerce has a potential to be a large size of the business. Market is already sensitized for socially relevant products and handicrafts and exhibits a ready market offshore. A partner is required to explore the right partners and devise a strategy to exploit the global market through E-Commerce.

Chapter 03: Observations and Recommendations

3.1 INTRODUCTION

This chapter will delineate the recommendations based on the previous chapters that focused on the detailed study of different technology system developed at TRIFED over the years. These recommendations may be helpful in shaping the outcomes of the more effectively in the future.

3.2 INVESTMENT IN TECHNOLOGY AND UTILISATION OF THE SAME

TRIFED, over the years has made a significant investment on creating different technology systems. The work order released through NICS I to one of its vendor M/s Uneecops Pvt. Ltd., amounted to

approximately INR 1 Cr. The project envisioned the creation of an integrated technology system comprising of three components: Development of a platform for the management of MSP for MFP and Van Dhan Scheme, Development of Mobile application and development of new website for TRIFED. Of all these deliverables, only the website (which is mostly an information site) is still in use. Even after 4 years of project, neither the MSP for MFP application or the VDIS portal are in active use by the organisation.

TRIFED also made an attempt to develop its own e-Commerce platform. The details and the source code of said project is not available with the department. It can be seen as another failed investment on technology development. The present e-commerce portal (domestic) is run by its technology vendor. This portal is functional and e-commerce transactions are happening through this portal. The Vendor, however, is charging 20% commission on sales and fixed monthly maintenance for infrastructure. The vendor has provided technology platform all the other responsibilities right from packaging, supply chain management and shipping are fulfilled by the TRIFED team. A 20% commission to the vendor for this purpose seems to be on the higher side.

The system is also not integrated with the TRIFED Retail Inventory Software and the financial systems. All processes are not automated and a lot a manual intervention is required to see the complete picture.

Technology integration at the organisation has thus been slow. Different systems are working in silos, isolated from each other. This can largely be owed to organisation's needs not being mapped to the technology systems efficiently. It has consequently resulted in an investment on technology that has not produced any significant change in the working of the organisation.

3.3 GIS SYSTEM

TRIFED GIS has mapped all Regional Offices of TRIFED, Outlets (Own, Franchisee & Consignment) and VanDhan Districts on the map. First version of GIS has been created and is available with basic information sets. But the idea of GIS was to build intelligence through this data set by knowing the density of tribal population, working population, MFP gatherers and other demographic features will help in designing the right programmes and effective execution of the same. Availability of MFPs and their volumes with geo-referencing will help in proposing a high value demand supply plan for the region. Fair distribution of grant, revenue and other benefits for tribals (both accessible and non-accessible areas) will also be more visible using a map.

The idea of a GIS based decision support system (DSS) was to have a more visual tool with different layers for making effective and efficient decisions for the empowerment of the tribals. A GIS based system gives more real-time geo-impact analysis of the different control systems. This will also help in predicting demand and supply region and time wise, price variation and distance analysis, order fulfilment with right collaborations, harvesting and value addition activities with more profitable and sustainable development of the tribal communities. TRIFED should engage a partner to map the right metrics with right outcomes for the said activities and do the cost-benefit analysis with a sustainable development plan in place.

3.4 STAFF MOTIVATION

Team motivation and utilization of technology is not up to the mark. When an organization takes up the task of technology implementation of such size, understanding readiness of the organization is

very critical for the success of the implementation. Change management is the biggest hurdle and people need to be trained continuously to undergo/accept the change smoothly.

The technology has been built as per the requirements of the organization. Completion certificate has been issued and UAT is done for different applications. But TRIFED staff have not made sincere efforts to use the technology which has been created on their requirements. Even if the technology systems are not mapped on their requirements completely because of the modifications asked by them or changes in the current requirements efforts should have made to move forward and start using the systems for the next level of maturity. Staff is in their comfort zone and would delay the technology use in organization.

3.5 CHANGES TO THE WEBSITE

TRIFED website is a complete information corporate site. Earlier version of website was also capturing and displaying MFP prices of different markets and that information was also available to all the stakeholders. While changing the website this functionality was moved to android app and other applications. These applications are not in use and hence this functionality is no longer available.

A new information architecture is required to structure the whole content again. Information and data are not consistent and need to be checked for authenticity. Broken links and missing data need to be taken care of.

Website should have more engaging content.

Empowerment measurement dashboards should be available and connected with the website.

3.6 E-COMMERCE PLATFORM

The organisation's focus and strategies for e-Commerce need to be redefined. TRIFED should not focus on the development of technology, but should rather focus on business outcomes and facilitating the involvement of maximum tribal beneficiaries. Technology development can be entrusted to partners with expertise in the same.

A data-based approach should be undertaken to understand the market. Segmentation of the market on the basis of geography, demography, behaviour, income groups and psychography is required. Activities need to be defined with set milestones and targets. Defining measurement metrics and capturing the output, outcome and impact of the same systematically will be critical for the success of this endeavour. There is also a need for rationalising benefits and further linking them to defined KPIs and measurement metrics. Some parameters for measurement can be business size, number of empowered beneficiaries (tribals), equitable distribution, geographic penetration, sustainable development, friction-free shopping experience and engagement.

In addition to this, a think tank is required that can work in coordination with experts, partners and consultants from the domain, to not only ensure the desired outcomes but also take ownership of the same. They can maximize the benefits that can be extracted from the partners such as GeM, Amazon, Flipkart and PayTM. New partner engagement and ensuring business outcomes will also be the responsibility of the E-Commerce Think Tank.

International business of global site for TRIFED e-Marketplace is miniscule. Global e-Commerce showcasing different variety of tribal products has potential to be large business market for these

products. The market is already sensitised for socially relevant products such as handicrafts and a ready market offshore for the same. There is a need for a market strategy to exploit the global opportunity through e-commerce with the right partners. This can be done through a think tank as well. TRIFED can focus on capitalising the demand for handicrafts and tribal products to build a conducive consumer pipeline through its area of influence and bottom-line marketing.

3.7 NEW SYSTEM FOR RETAIL MANAGEMENT

An integrated Retail Management Software is required to manage the marketing development and sales activities of TRIFED. Retail business is one of the core activities of TRIFED offers to the targeted community. The retail system should also have the CRM inbuilt in the system and should be extended to both stores and e-commerce outlets. Warehouse Management can be built as an additional component to the system. Accounts, tax, statutory compliances and forecasting should also be integrated with the system.

3.8 DASHBOARD DEVELOPMENT

With dashboards, TRIFED can track their key indicators of success. This way, they track whether or not they're succeeding as they implement new strategies and face new challenges. The schemes (both MSP for MFP and Van Dhan) have too many empowerment components. The data for these should be shown on a dashboard connected with the applications to furnish the real time statistics. Strategic, operational, analytical and tactical dashboards can be built to have a different view of the information and status. These dashboards will be the key component to work as decision support systems.

Some examples of dashboards are as follows: A dashboard focused on monitoring long-term organisation strategies by analysing and benchmarking a wide range of critical trend-based information. A business intelligence tool that exists to monitor, measure, and manage processes or operations with a shorter or more immediate time scale. Another dashboard can contain large streams of comprehensive data that allow analysts to drill down and extract insights to help the company to progress at an executive level. Platform-specific dashboard can track organizations social media performance with specific metrics and generate a dashboard focusing only on that channel. Some information-rich dashboards are best suited to mid-management and help in formulating growth strategies based on trends, strengths, and weaknesses across departments.

A partner organization should be utilised to build the dashboards and TRIFED team should provide the inputs to build the environment.

3.9 IMPACT ASSESSMENT AND CONTINUOUS MONITORING OF SCHEMES

TRIFED needs an internal system to monitor and assess the schemes and programmes continuously. Data should be available on internal dashboard of the management. Third party impact assessment of

schemes is also recommended for the external view of the programme's health. On the basis of the report, mid-term corrections should be undertaken and new version of the programmes planned.

3.10 RATIONALISING FOCUS ON TECHNOLOGY

Technology development when done from scratch, is a complex task. Custom development is required when ready technology solutions are not able to fulfil the organisational requirements. Still the efforts required to build such a technology system is a huge undertaking. The efforts required for deployment, training and execution need experts, commitment, understanding and knowledge of the systems both technical and functional.

In most of the cases the value addition coming out if it will not be significant in comparison to the efforts put in. History has shown that time after time, that these projects will be over budget, unsustainable, and competitively weaker than the professional tech products in the market.

TRIFED's core business is marketing development for the tribal products and MFPs. It has a very large number of stakeholders to empower and technology is one of the tools to scale the whole process to make it more effective, efficient and transparent. TRIFED should change its focus from technology creation to effective technology usage. Available and existing technology solutions should be optimally utilized. Capital investment in technology solutions should be redirected to operational expenses.

GLOSSARY

S. No	Abbreviations	Description
1.	API	An application programming interface is a way for two or more computer programmes to communicate with each other. It is a type of software interface, offering a service to other pieces of software
2.	B2B	Business-to-business is a situation where one business makes a commercial transaction with another. This typically occurs when: A business is sourcing materials for their production process for output, i.e., providing raw material to the other company that will produce output
3.	B2C	Business-to-consumer is the business model of selling products directly to customers and thereby bypassing any third-party retailers, wholesalers, or any other middlemen.
4.	CMS	A content management system is computer software used to manage the creation and modification of digital content. A CMS is typically used for enterprise content management and web content management.

5.	CRM	Customer relationship management is a process in which a business or other organization administers its interactions with customers, typically using data analysis to study large amounts of information.
6.	CSC	Common Service Centres are physical facilities for delivering Government of India e-Services to rural and remote locations where availability of computers and Internet was negligible or mostly absent.
7.	DM	District Magistrate is an union civil service officer of the Indian Administrative Service cadre who is responsible for land revenue collection, canal revenue collection and law & order maintenance of a District.
8.	DSS	A decision support system is an information system that supports business or organizational decision-making activities.
9.	E-Commerce	E-commerce is the activity of electronically buying or selling of products on online services or over the Internet.
10.	E-RaKam	E-RaKam is such a digital platform that brings together the farmers, FPOs, PSUs, civil supplies, and buyers for the ease of selling and buying agricultural products. Farmers can sell their agricultural products to anyone across the country by using e - RaKam.
11.	FAQs	A frequently asked questions list is often used in articles, websites, email lists, and online forums where common questions tend to recur, for example through posts or queries by new users related to common knowledge gaps.
12.	GeM	The Government e Marketplace is an online platform for public procurement in India. The initiative was launched on August 9, 2016 by the Ministry of Commerce and Industry, Government of India with the objective to create an open and transparent procurement platform for government buyers.
13.	GI Tag	A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place.
14.	GIGW	Guidelines for Indian Government Websites aims to ensure quality and accessibility of government guidelines, by offering guidance on desirable practices covering the entire lifecycle of websites, web portals and web applications, right from conceptualisation and design to their development, maintenance and management.

15.	GIS	A geographic information system consists of integrated computer hardware and software that store, manage, analyze, edit, output, and visualize geographic data. Much of this often happens within a spatial database, however, this is not essential to meet the definition of a GIS
16.	GUI	The GUI, graphical user interface, is a form of user interface that allows users to interact with electronic devices through graphical icons and audio indicator such as primary notation, instead of text-based UIs, typed command labels or text navigation
17.	iOS	iOS is a mobile operating system developed by Apple Inc. exclusively for its hardware. It is the operating system that powers many of the company's mobile devices, including the iPhone
18.	IT	Information technology is the use of computers to create, process, store, retrieve and exchange all kinds of data and information. IT forms part of information and communications technology.
19.	Jpeg	JPEG is a commonly used method of lossy compression for digital images, particularly for those images produced by digital photography. The degree of compression can be adjusted, allowing a selectable trade-off between storage size and image quality.
20.	MFPs	Under Forest Rights Act, 2006, "minor forest produce" includes all non-timber forest produce of plant origin including bamboo, brush wood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the like.
21.	MIS	A management information system is an information system used for decision-making, and for the coordination, control, analysis, and visualization of information in an organization. The study of the management information systems involves people, processes and technology in an organizational context.
22.	MoTA	The Ministry of Tribal Affairs, also known by its abbreviation MOTA, is an Indian Government ministry charged with overall development of Scheduled Tribe communities of India by providing them education, scholarships, grants to create more health infrastructure in tribal communities, preservation of Tribal Culture & languages and direct cash transfer schemes to economically backward tribal families.
23.	MSP	The minimum support price is an advisory price signal that is part of a larger set of agricultural policies in parts of India.
24.	NICSI	National Informatics Centre Services Inc (NICSI) was established in 1995 as a section-25 company (now section-8 under the Companies Act, 2013) company under National Informatics Centre, Ministry of Electronics & Information Technology, Government of India for providing and procuring IT solutions for

		multiple e-governance projects undertaken by NIC, MeitY, Governments and Government Organisations (like Public Sector Undertaking)
25.	PCA	A Price Capturing Agent captures various MFP prices at regular intervals (pre-defined) at their corresponding Haat Bazars within the TRIFED system
26.	PC	A personal computer is a multi-purpose microcomputer whose size, capabilities, and price make it feasible for individual use. Personal computers are intended to be operated directly by an end user, rather than by a computer expert or technician.
27.	PFMS	The Public Financial Management System (PFMS) is a web-based online software application developed and implemented by the Controller General of Accounts (CGA), Department of Expenditure, Ministry of Finance, Government of India.
28.	PMU	A Project Management Unit. Though responsibilities vary depending on the type of project, they usually include: Planning project activities, tasks, and end results, including doing the work breakdown, scheduling, budgeting, coordinating tasks, and allocating resources. Selecting and organizing the project team. Interfacing with stakeholders.
29.	png	Portable Network Graphics is a raster-graphics file format that supports lossless data compression. PNG was developed as an improved, non-patented replacement for Graphics Interchange Format
30.	POS	The point of sale or point of purchase is the time and place at which a retail transaction is completed. At the point of sale, the merchant calculates the amount owed by the customer, indicates that amount, may prepare an invoice for the customer, and indicates the options for the customer to make payment.
31.	RIS	Retail inventory software empowers store owners to speed up daily tasks, ensure inventory accuracy, and make better decisions. Inventory management plays a key role in handling stock movement from suppliers to storage, from warehouse to stores, and to customers.
32.	RO	An RO stands for a Regional Offices of TRIFED located in different parts of the country
33.	SAP	Surplus Agriculture Produce
34.	SEO	Search engine optimization is the process of improving the quality and quantity of website traffic to a website or a web page from search engines. SEO targets unpaid traffic rather than direct traffic

		or paid traffic.
35.	SHGs	A self-help group is a financial intermediary committee usually composed of 12 to 25 local women between the ages of 18 and 50.
36.	SMO	Social media optimization is the use of a number of outlets and communities to generate publicity to increase the awareness of a product, service brand or event.
37.	SSL	Secure Sockets Layer (SSL) is a security protocol that provides privacy, authentication, and integrity to Internet communications. SSL eventually evolved into Transport Layer Security (TLS).
38.	STQC	Standardisation Testing and Quality Certification (STQC) Directorate is an attached office of the Ministry of Electronics and Information Technology, Government of India, provides quality assurance services in the area of Electronics and IT through countrywide network of laboratories and centres.
39.	TRIFED	Tribal Cooperative Marketing Development Federation of India Ltd (TRIFED), is a National Level Federation under the Administrative Control of the Ministry of Tribal Affairs
40.	UAT	User acceptance testing (UAT), also called application testing or end-user testing, is a phase of software development in which the software is tested in the real world by its intended audience.
41.	UI	UI, which stands for user interface, is anything a user interacts with on a website, application, or any digital device. It's everything you see on a computer screen and interact with (e.g., the buttons and other controls on a website or application).
42.	UX	The user experience (UX) is what a user of a particular product experiences when using that product. A UX designer's job is thus to create a product that provides the best possible user experience.
43.	VDIS	The Van Dhan Integrated System is a portal designed to facilitate the Van Dhan Yojana or Van Dhan Scheme at TRIFED
44.	VDVK	The Van Dhan Yojana targets livelihood generation for tribal gatherers and transforming them into entrepreneurs. This involves the setting-up tribal community owned Van Dhan Vikas Kendras (VDVKs) in predominantly forested tribal districts