How information technology is empowering the women of SEWA in India

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Acknowledgements

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Cover photo: Young woman member of SEWA holding a laptop © SEWA

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Acronyms

CLBRCs	Community Learning and Business Resource Centres
EMIs	Equated Monthly Instalments
IT	Information Technology
MMS	Membership Management System
RUDI	Rural Urban Distribution Initiative
SCGs	Savings and Credit Groups
SEWA	Self-Employed Women's Association

Summary

The Self Employed Women's Association (SEWA) in India is a registered trade union and movement that was initiated in 1972. SEWA's aim is to advance the rights of women workers in the informal economy, through activities and programmes that contribute to their social and economic empowerment. Over the years, the movement has grown phenomenally, with a presence in 18 states across India and a total membership of over 2.5 million women as of 2023. SEWA is the only national union of women workers from the unorganised sector in India. Its members are women workers who sustain on their own labour and skills, with minimal assets or working capital; nonetheless, they are economically engaged, contributing significantly to the economy.

SEWA's membership consists of four types of self-employed workers: producers; home-based workers; vendors and hawkers; and labour and other service providers. While SEWA is a national entity, it has a decentralised institutional model with autonomous and independently registered district associations, which combine the objectives of economic pursuit and movement building.

SEWA's earliest attempts at introducing information technology (IT) to its members were made circa 2012 as part of the Economic Empowerment of Women Project supported by the World Bank and Japan Social Development Fund.. At around the same time, the government of India launched its Digital India campaign, which aimed to transform India into a digitally empowered society. SEWA leveraged the opportunities arising out of Digital India and enmeshed them in its own activities to further its goal of women's empowerment.

SEWA has identified five core areas of digital transformation, which include activities such as organising, strengthening livelihoods, building members' capacities, providing financial services, and providing other supportive services. These activities are predicated on members' digital readiness, which means that they are equipped with the appropriate devices and knowledge and have adequate network connectivity.

Among the many tools and applications that are in use by and developed specifically for SEWA members, the four documented in this case study have been selected because of their organisation-wide usage, for enhancing efficiency of core organisational functions and their significance in enhancing members' access to markets and financial services.

MMS: SEWA's mobile membership management system

Membership management and enrolment of new members are prominent activities for all SEWA leaders because of the organisation's core purpose, legal status (trade union) and principles of operation. A digitised Membership Management System (MMS) was introduced in 2016 to overcome the challenges faced by SEWA leaders arising from the manual processes of membership renewal and enrolment of new members. There are several useful features that the MMS has introduced, which have enabled streamlining of both efforts and data. The most notable feature perhaps is the introduction of a 14-digit unique membership identity number for each SEWA member, which enables the tracking of all inputs by way of training or other assistance and their impact on a member or her household. At present, there are approximately 2,000 active users of MMS. MMS has eased and facilitated the use of membership data for building the SEWA movement, and its user-friendly interface has enabled more leaders to gain proficiency in its use.

RUDI Sandesha Vyavhar: a mobile business app

RUDI Sandesha Vyavhar (RSV) was launched in 2013 to facilitate communication between the warehouse/stores of RUDI and the members who specialise in the sale of RUDI products. RUDI is the brand name for a range of groceries, spices and other household goods which are procured, processed, packaged and sold by RUDI bens, the women representatives of the RUDI (Rural Urban Distribution Initiative) Multi-Trading Company Limited, an enterprise owned and formed by members of SEWA. The objective of its formation was to enhance returns to all stakeholders along the value chain of items produced and consumed by members of SEWA.

RUDI Sandesha Vyavhar (RSV) was the first digital application introduced to its members by SEWA. As a result of its use, the sales turnover of RUDI has increased significantly. At the backend, richer information about sales is available for each location, which is used for planning, advance procurement and inventory management at the district and central levels.

mBachat: a mobile savings app

mBachat is a digital platform and mobile app launched in 2016 for use by cluster leaders and facilitators of SEWA savings and credit groups (SCGs). Its purpose is to maintain records of savings and monthly deposits (which includes monthly savings and equated monthly instalments – EMIs – of credit availed) for all members of the SCG. The mobile app is backed by a web interface which has been installed in all the district association offices. At the time of this study, the mBachat app was being used by around 300 SEWA members across Gujarat. As with the other applications, mBachat has reduced the time and effort required on the part of the leaders, while minimising scope for administrative errors. This has allowed the cluster leaders more time to form new SCGs leading to higher overall savings.

SEWA Bazaar: a digital social enterprise

SEWA Bazaar is a relatively recent development in SEWA's journey of digital transformation. The idea took shape about 10 years ago after SEWA's 40th anniversary as an organisation. One of the key objectives of SEWA Bazaar was to leverage the strength of SEWA as a brand name: a brand owned by its women members that could be trusted implicitly. Development of the online platform for SEWA Bazaar was outsourced, but every stage of its development was closely guided and mentored by the SEWA IT team, in terms of its functionality, design and appearance. The beginnings are extremely promising: it is becoming evident that SEWA Bazaar is used not only to sell members' products but also represent a set of values and ethics that they embody.

Final thoughts

When SEWA's digital transformation began over a decade ago, it was very low key and happened at a time when the use of mobile phones was uncommon. Today, SEWA is one of the most advanced civil society organisations as far as the use of IT by its members is concerned. This transformation has been possible because of SEWA's futuristic outlook, its long-term planning with steadfastness of purpose, its ability to leverage funds and other resources in pursuit of its goals, and a dedicated and stable IT team within the organisation. After the successful rollout of RSV, mBachat and MMS, confidence levels have soared, and more ambitious programmes – such as the forthcoming SEWA app – are beginning to appear, like exciting challenges to be conquered.

1 Introduction

The Self Employed Women's Association (SEWA) is a registered trade union and a movement that was initiated in 1972. SEWA's aim is to advance the rights of women workers in the informal economy through activities and programmes that contribute to their social and economic empowerment. Over the years, the movement has grown phenomenally, with a presence in 18 states across India and a total membership of over 2.5 million women as of 2023. SEWA is the only national union of women workers from the unorganised sector in India. Its members are women workers who sustain on their own labour and skills, with minimal assets or working capital; nonetheless, they are economically engaged, contributing significantly to the economy. It is estimated that 62% of India's gross domestic product (GDP) is accounted for by self-employed individuals in the country (SEWA, 2023).

- SEWA membership consists of four types of self-employed workers:

- Producers, such as small-scale and marginal farmers, salt farmers, cattle farmers, artisans and gum collectors

- Labour and service-providers, such as agricultural, construction and factory workers, contract labourers, handcart pullers, head-loaders, domestic workers, tendu-patta (forest tree leaves used for tobacco rolling) harvesters and waste recyclers

- Homebased workers, such as weavers, potters, bidi (local cigarette) and agarbatti (incense stick) rollers, papad (papadam) rollers, garment workers, artisans and women who process agricultural products, and

- Vendors and hawkers, usually small-scale traders who sell products such as vegetables, fruit, fish, eggs and other food items, used garments and other consumable goods.

While SEWA is a national entity, it has a decentralised institutional model with autonomous and independently registered associations, often at the district level. The institutional structure at the district level combines the objectives of economic pursuit and movement building. The district-level associations are led by a district coordinator, who manages a team of 6–10 associates, who together constitute the district committee or the district core team. This team is responsible for leading the capacity building of its members, with each team member having a core thematic or functional area of expertise (such as agriculture, animal husbandry or digital finance and accounting). Every member of the core team is both a member and an employee of SEWA, responsible for providing leadership, imparting skills training, managing project implementation, and being the interface between the village- and state-level leaders and activities of SEWA on the ground. The enrolment of new members is an ongoing process as community leaders (aagewans) and senior members strive to include more women (Mehta 2023).

SEWA's earliest attempts at introducing information technology (IT) to its members began around 2012, through a project supported by the World Bank and Japan Social Development Fund, which aimed at the economic empowerment of women. Under this project, SEWA established Community Learning and Business Resource Centres (CLBRC) in districts where it operated. Through the CLBRCs, training was provided to members on several subjects, including the use of computers and other electronic devices.

Around the same time, India was witnessing a digital revolution with incredible growth in the availability and use of IT. Companies were recognising the potential of this digital transformation to improve business efficiency through automation, thereby reducing errors and increasing productivity. The government of India (GoI) launched its Digital India initiative in 2015, with a vision to transform India into a digitally empowered society and knowledge economy. The Digital India programme consisted of three key components: the availability of digital infrastructure as a utility for all citizens, governance and services on demand, and the digital empowerment of citizens. Among other things, the programme resulted in the availability of high-speed internet as a core utility for citizens, an increase in ownership of mobile phones, the opening of new bank accounts (providing citizens with digital and financial space) and the availability of services in real-time from online and mobile platforms. This has helped to make

financial transactions electronic and cashless, improved digital literacy and provided universally accessible digital resources and services in Indian languages (GoI 2023).

Given that SEWA's programmes are need based, demand driven and forward looking, it was able to leverage the opportunities arising from Digital India and enmesh them with its own activities to further its goal of women's empowerment. Table 1 outlines the range of digital initiatives undertaken by SEWA. A select few are then documented in detail in the subsequent sections: SEWA's Membership Management System (MMS), the RUDI Sandesha Vyavhar (RSV) mobile business app, the mBachat savings app, and SEWA Bazaar, a digital social enterprise platform.

2. An overview of digital transformation in SEWA

SEWA has identified five core areas of digital transformation[1] which include activities such as organising and communication, strengthening livelihoods, capacity building of its members, providing financial services, and facilitating provision of other supportive services (see Table 1). Organising and communication are of particular importance in the context of a membership-based organisation such as SEWA, whose core strengths are its members and their economic activities. Strengthening members' livelihoods and access to formal financial services are closely interlinked and are cornerstones of SEWA's goals of full employment and self-reliance. In pursuit of these goals, building the capacity of SEWA's members is an integral element. Whereas all training was formerly conducted offline, SEWA's members have now realised the potential of online learning. They adopted it whole-heartedly during the COVID-19 pandemic, when physical movement and gatherings were not possible. Providing supportive services is important as they facilitate the performance of all other activities, while contributing to SEWA members' health and wellbeing.

The applications and innovations that are used in each of these areas are summarised in Table 1. Some are existing apps such as WhatsApp or Facebook, while others have been designed and developed by SEWA in response to members' needs or for enhancing operational efficiencies.

Table 1. Information technology currently in use by SEWA

Tool/app	Description and purpose	Role of SEWA
Organising and communication		
Membership Management System (MMS)	A mobile app and web portal to track, monitor and manage membership data for the organisation, state/district associations and grassroots leaders in real time	Conceptualising, designing the system and user interface, liaising with technical agency, piloting the app, training members, deployment and day-to-day management
SEWA app	Once developed, the SEWA app will connect individual members directly to the whole SEWA network, facilitating interaction among its members	The app is currently the in development phase
WhatsApp, Facebook, Instagram	Social media apps in the public domain are used for communication and information dissemination	Training of members, creating groups/handles (public user names), posting messages and responding to queries
Capacity building		
E-learning training modules	Online versions of existing training modules – digital audio-visual, multi-lingual content for members to learn at their own pace	Training and creating a cadre of grassroots leaders to provide training in use of IT devices and services
Livelihood strengthening		
RUDI Sandesha Vyavhar (RSV)	A mobile application and web-based service for use by RUDI bens, who are SEWA members working with the RUDI Multi-Trading Company. The company is owned and managed by the members	Conceptualising and launching the app, monitoring its use, working with the tech agency to monitor and revise the app features, conducting training for members, etc.

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[1] These pertain only to SEWA as an entity, and do not include ongoing developments in its sister organisations, which are independent and autonomous entities.

Hum Sab Ek	A SEWA–AirBnB partnership programme committed to preserving and spreading the rich heritage of cultural, traditional, gastronomical and sartorial diversity to the world outside their villages, while helping SEWA members (women) to preserve their rich culture and tradition and improve their livelihoods by connecting them with the global digital platform	SEWA has forged a partnership with AirBnB, identifying properties among SEWA members to offer as homestays to tourists, training homestay providers, and training a cadre of SEWA members who are registered to liaise with AirBnB on behalf of the homestay providers, after it was realised that these members were unable to do it themselves
Vahana SEWA	An app-based service in some districts of Gujarat, where members can book utility vehicles/ambulances according to their needs from among its network of service providers	SEWA works in partnership with the company that provides the vehicles for use by SEWA members in three districts of Gujarat, disseminates information about the service, and trains members
SEWA Bazaar	A digital social enterprise that promotes traditional livelihoods. It is a collective platform providing both an offline and online presence for women artisans and microentrepreneurs	Identifying the need for a holistic marketing platform for SEWA's members, mentoring development of the application and web portal, piloting and creating content for the app (including photoshoots, spotlighting individual artisan's stories and related activities)
Financial services		
mBachat	A digital platform and mobile app to facilitate monthly records maintenance of savings and credit groups (SCGs)	Designing the layout and user interface of the app, upscaling its functionalities; training members in its use, providing ongoing technical support
Bank Sakhis (Banking correspondents)	To create a network of Bank Sakhis from among SEWA members to provide digital financial services at the doorstep in rural areas, to complement their existing work around SCGs	Training members and providing them with the required and relevant information, facilitating procurement of supporting documents for registration as banking correspondents
UPI, AEPS, ATM, mobile wallet, payment banks, etc[2]	Using existing digital financial platforms offered by merchants, banks and others	Training members in the use of digital financial platforms to facilitate electronic transactions
Supportive services		
Tele-medicine	Online consultations for SEWA members and their families with SEWA doctors	Empanelment of doctors (three), establishing agreements with them, providing information to and training members on how to avail their services
Farmer advisories	Advisories on topics such as crop management and weather provided by agricultural experts through mobile messaging services (SMS)	Identifying agricultural experts and signing up farmers to the messaging services
Bhavishya Talks	Broadcasting video episodes on topics selected by members	Recording and broadcasting videos
Hansiba Museum	A virtual tour of the community museum of traditional arts and crafts of SEWA's artisan members	Content creation, information dissemination
Community radio	Broadcasting community-level radio programmes on topics based on members' needs and priorities	Training members in radio programming and broadcasting skills, obtaining necessary licenses for operating community radio, providing ongoing support to members where needed

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[2] UPI (Unified Payments Interface), AEPS (Aadhaar Enabled Payment System), ATM (Automated Teller Machine).

The areas of digital transformation outlined in Table 1 are founded on the digital readiness of SEWA's members, which in turn is determined by the following (SEWA 2023a):

- **Devices: Advanced, appropriate and affordable devices**. Initially, SEWA used to advance interest-free loans to its members to purchase mobile phones/tablets. However, after the benefits of ownership were realised and smartphone prices were reined in by the market, members can now purchase them, either with their own savings or with EMI loan schemes offered by various sellers, banks or finance companies.

- **Connectivity: Coverage, speed and affordable connectivity.** In the early days of digitalisation, SEWA collected information about the most suitable mobile and internet service providers in each district and block and advised its members to purchase mobile phone SIM cards accordingly.

- **Knowledge: To accept, adopt and cascade technology.** The IT team at SEWA ensures that all users are provided with the training and necessary support to use their devices effectively. In addition to the core IT team at the Ahmedabad office, there is an IT point person in each district association, who routinely conducts training programmes for all users.

3. MMS: SEWA's mobile Membership Management System

A digitised Membership Management System (MMS) was introduced in 2016 to overcome the challenges faced by SEWA leaders relating to manual processes of membership renewal and enrolment of new members. Membership management and enrolling new members are prominent activities for all SEWA leaders because of the organisation's core purpose, legal status (trade union) and principles of operation. In accordance with the laws of the land, SEWA and its district associations need to collect annual membership fees from every member of the association. The process, which is the responsibility of the village leaders (aagewans), involves meeting with every member. It begins in January and continues until December. Along with collecting fees, basic data about the member (including her identifiers, occupation/trade and income) are also collected.

Until 2016, processes for membership renewal (for existing members) and the enrolment of new members were manually administered, which involved generating large volumes of paper-based records, with accompanying logistical challenges. Previously, the leaders manually registered the names and details of old and new members and issued them receipts for membership fees received. The books with counterfoil data slips would then be deposited by the leaders with their respective district associations who would then transport the same to SEWA's headquarters in Ahmedabad. There, a dedicated team of four members, , worked throughout the year to enter the data generated into Excel spreadsheet templates or Foxpro. The data were then cleaned and made available for use by SEWA's top-level leadership, which not only required enormous amounts time and effort but also resulted in considerable delays. The final membership numbers would become available for use by February or March of the following year, resulting in considerable time lags in decision-making for policy and programmatic purposes. In addition, despite the rigour and discipline exercised in the process, the data and results were also prone to some degree of human error.

To overcome these challenges, SEWA's new Membership Management System (MMS) was introduced in 2016 by the IT team. The MMS app is a web- and mobile-based system tailored for use by SEWA leaders at the grassroots. The MMS app serves three functions:

- Renewing existing memberships

- Enrolling new members

- Generating static membership reports

At present, the interface allows the use of three Indian languages in addition to English: Gujarati, Hindi and Bangla (Bengali). Overall, the MMS app has facilitated and eased the use of membership data for building the SEWA movement. While district coordinators login to monitor real-time membership

statuses online, group leaders in villages use it to report on progress against targets of membership renewals and new member enrolment on a monthly basis.

The MMS app has introduced several useful new features that have enabled the streamlining of both efforts and data. The most notable feature perhaps is the introduction of a 14-digit unique membership identity number for each SEWA member, which is generated when a new member's data is first entered into the system. Over time, it is expected that all data that are collected will be tracked and tagged with this unique ID number, opening up multiple possibilities for how the data is analysed and utilised to monitor impact and to plan activities or programmes.

The MMS concept to digitise membership data was first mooted by the IT team at a meeting of SEWA's Management Group in 2016, primarily because there were recurrent and persistent issues involving the membership database, despite everyone's best efforts. Thereafter, it was discussed with a few district teams, who had also been struggling with issues around membership entries at their monthly meetings. To take the discussion forward, a set of active group leaders, master trainers, spearhead teams and district coordinators were invited to a discussion and demonstration of a draft blueprint of the MMS app in 2016. From among the participants, smaller sets of leaders were identified for pilot testing the app, which was done in Anand, Aravalli and Mehsana districts of Gujarat.

A test version of the application was provided by the Bengaluru-based developer Sasken Technologies in January 2017[3]. At that stage, available member data from the previous years' records were pre-loaded. Some modifications were suggested, the most notable being that the names of existing members linked to a leader became visible on the screen upon selection of a village by the leader[4]. Leaders reported that this feature was a huge help, as they could sometimes forget members' names or had to carry notebooks to constantly check the same. This test version was piloted in a few locations but only for renewal of membership. The 'add new member' feature was pioneered in 2018, and 'generate static report' in 2019. Also in 2019, some additional features were introduced, such as scanning Aadhaar QR codes (a unique citizen identification code[5]) for populating basic fields, and the speech-to-text capability, thus speeding up the process of adding new members via the MMS app. Lastly, in 2020, the option to upload a member's photo from the

A screenshot of MMS app welcome screen

gallery was added. Thereafter, there have been no major additions or changes, although some optional features have been incorporated, such as generating e-receipts on completion of the registration/renewal process, and the addition of e-Shram card details[6].

Access to the MMS app is reserved for SEWA leaders (aagewans), which includes groups leaders, master trainers, cluster leaders, district coordinators, state coordinators and members of the SEWA executive committee. When the app was rolled out across all of the district associations in Gujarat in 2017, many leaders had neither smartphones nor could they access them; their capabilities also needed strengthening. To facilitate the adoption and diffusion of the MMS app at scale, SEWA extended interest-free loans (10,000 rupees) to its leaders to enable them to purchase a smartphone,

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[3] The agency had been involved in the mBachat app development, which by then was already in use.
[4] It may be noted that members are mapped against leaders, and each leader can only see/access the records of the members within her domain or jurisdiction. At the district level, the system allows the district coordinator to view all member records within the district.
[5] Aadhaar is a unique 12-digit individual identification number issued by the GoI. The number serves both as a proof of identity and address.
[6] The e-Shram card is a GoI initiative which aims to register all unorganised-sector workers in a national database and link the same with Aadhaar. The aim is to optimise the employability of workers and also use the system to seamlessly cover them under relevant social security schemes.

along with a list of recommended devices and the required specifications. The facility was availed by around 250 leader-members, who repaid their loans within a year. At the same time, short training programmes were organised at the district and sub-district levels, where participants learnt not only about the MMS app but also about different features of smartphones and their use. Subsequently, the leaders were provided on-the-job support in the field to adequately familiarise them with using the mobile MMS app. At present, there are around 2,000 active MMS users out of a total 2,513 registered users. Inactive users include those currently involved in other organisational activities, but who also have the responsibility to add new members and are expected to become active later in the year.

Each leader with access to the MMS app has a unique user ID and a four-digit passcode. The passcode is initially issued by SEWA headquarters, and leaders are expected to change it when they first log in to the MMS app. After logging in, users are presented with three options: renewing membership, adding new members, and generating a static report. The first option – renewal of membership – presents a list of names of existing members within each leader's jurisdiction, and she has to simply select the name for which membership is to be renewed. The process is repeated for every member. Alternatively, there is a speech-to-text option that she can use to select an existing member's record. Once a record is selected, the member's demographic details appear on the screen, and the user is required to confirm and/or update the fields pertaining to the member's trade/occupation, and her annual income. After entering the requisite details, the user is asked whether she would like to submit the data and generate an e-receipt, a printed receipt[7] or simply submit the data. The submitted records are validated and approved by the district coordinator, after which they become a part of the annual membership database. Data privacy guarantee is provided by SEWA: adequate measures are in place at the host site (maintained by Sasken) to take routine backups and keep the data secure.

The MMS app provides real-time information as well as trends in membership across districts and areas within each district. SEWA decision-makers can use the trade and income information, along with the insights provided by the district leaders, to design and implement new initiatives around specific trades and/or geographies.

4. RUDI Sandesha Vyavhar: a mobile business app

The RUDI Sandesha Vyavhar (RSV) app was launched in 2013 to facilitate communications between the warehouse/stores of the Rural Urban Distribution Initiative (RUDI) Multi-Trading Company Limited (an enterprise owned and formed by SEWA members) and the members (RUDI bens) who specialise in the sale of RUDI products[8]. RUDI is the brand name for a range of groceries, spices and other household goods which are procured, processed, packaged and sold by RUDI bens.

RSV was probably the first app that was developed and adopted by SEWA, for which it received grant support from the World Bank through the Japan Social Development Fund. When first launched in 2013, RSV was a feature phone-based app[9]. However, at that time, most SEWA members did not own or use mobile phones, and the IT team spent at least six months building members' capacities and familiarising them with the use of both feature phones and the RSV app, which allowed RUDI bens to place an order for a maximum of five products at a time. However, while the original RSV digitised and facilitated the communication process, the system was cumbersome, time consuming and one sided:

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[7] Currently, issuing printed receipts are not an option as printers are yet to be provided to the leaders.

[8] Established by SEWA in 2004, the Rural Urban Distribution Initiative (RUDI) is an agricultural cooperative. Most of its 3,000 members live in Gujarat. Its objective is to enhance returns to all stakeholders along the value chain of products produced and consumed by members of SEWA. The name 'RUDIben' is derived from 'RUDI' and 'ben' (meaning 'sister'), which is a widely used greeting for a woman in Gujarat. The RUDI Sandesha Vyavhar (RSV) is a joint initiative of SEWA, the Cherie Blair Foundation for Women, and the Vodafone Foundation. 'Sandesha vyavhar' means 'communication' in Gujarati.

[9] Featurephones are a type of mobile phone that are more advanced than basic mobile phones, but do not have the capabilities of later smartphones.

RUDI bens had no way of knowing whether a product was in stock or if the quantities required were available at the time of placing the order. Because of these issues, sales volumes remained low and only the most loyal customers (often SEWA members) could be retained. Responding to users' feedback, the limit for the number of products that could be ordered at a time (per purchase order) was doubled to 10 in the following year (2014). However, the gap between sales targets and achievements continued to be a concern.

The RSV app was fully revamped and relaunched in 2017 as a smartphone-compatible version. The modifications included an interface which was user friendly – with information about product availability, pictures, packaging sizes and prices. With these changes, there was a huge impact on user numbers, customer base and sales turnover. By 2019, all RUDI bens had switched to using smartphones, and over 3,000 RUDI bens are using the RSV app. Over time, some leaders have succeeded in making institutional sales and retain high-volume customers. With the experience gained and increase in sales, a systematic mechanism along designated routes was put in place for weekly deliveries of the purchase orders received from RUDI bens.

While the purchase orders got streamlined, sales tracking remained incomplete at the backend, mainly for two reasons:

- RUDI bens were unwilling to put in the extra time and effort for entering the data, and

- They had no incentive to provide the extra information.

To overcome this, each RUDI ben was asked to supply a list of all her regular and existing customers, which was then uploaded to the app. Thereafter, when sales information needed reporting, she was able to select the customer names from the list, instead of having to manually type the name. Subsequently, reporting of sales-order information has improved and richer customer data (numbers and purchase value) is now available for each location. This information is used for advance planning and inventory management by RUDI at the district and central levels.

5. mBachat: a mobile savings app

To develop the mBachat digital platform and mobile app, SEWA collaborated with Sasken Technologies. mBachat was launched in 2016 for use by cluster leaders and facilitators of SEWA savings and credit groups (SCGs) to maintain records of savings and monthly deposits (which includes monthly savings and EMIs of credit availed) for each SCG member. In addition, the mobile app also displays information about total individual and group savings, including the amount saved in fixed deposits, if any.

Individual members can also avail credit through the SCGs, generally for livelihood/enterprise development, education or medical emergencies. However, only information relating to savings and deposits is currently being recorded in the mobile app: the loan and EMI details against credit repayments for the group and members are currently input into the mBachat online portal by the loan department at the district office. The app will be upgraded when the new loan/credit module which is now under development, is completed.

For the mBachat mobile savings app, two user types are recognised: cashiers and karyakartas (employees of the district association). Each village where savings and credit activities are ongoing are mapped against their respective karyakarta. After logging in, the user is presented with a screen showing the names of all the villages that she is responsible for, in the language of her choice. Upon selecting a village, the names of all the SCGs in that village (within her jurisdiction) are visible on the screen. She is then required to select the one that she is transacting for. When selected, the group name, bank account number and the names and headshots of the group leaders (leader and
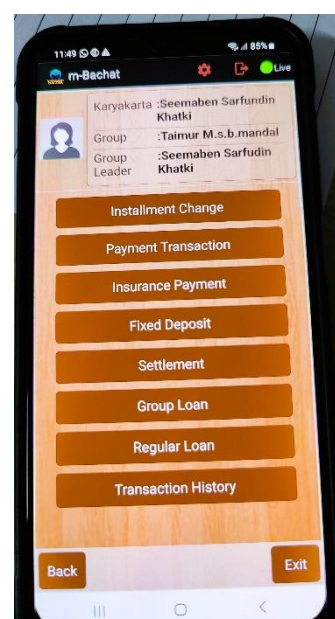
treasurer), along with their mobile numbers, are displayed, as well as the names of all the members and their monthly membership instalment due for payment.

The monthly instalment is the sum of each member's regular monthly savings and EMI against any loan that they may have taken. On the day when the karyakarta visits the group per her schedule, members deposit their instalments with the group leader who then hands them over to the karyakarta, while informing her if any member has defaulted on her payment for that month. Accordingly, entries are made in the mBachat app against individual members; upon submission, all member records as well as the group's records are updated with the most recent information. Because the mBachat app is used for recording information pertaining to financial transactions, there is an added layer of security built into the system; the device is authenticated using its IMEI number at the time of login[10].

The mobile app is backed by a web interface which has been installed in all district association offices. The interface can be accessed by district coordinators to monitor the savings and credit activities of the aagewans in their district and the number of SCGs and their functionality, as well as real-time information about the savings and deposits. The web interface is also used to make changes such as adding or deleting new groups or users. It also allows for the updating of collection details in case an aagewan's phone/tablet breaks down for any reason.

At the time of this study, the mBachat app was being used by around 300 SEWA members across Gujarat (SEWA 2023b). As with the other applications, mBachat has reduced the time and effort required on the part of the leaders, while minimising scope for administrative errors.

6. SEWA Bazaar: a digital social enterprise platform

SEWA Bazaar is a relatively recent development in SEWA's journey of digital transformation. Set up by the SEWA Trade Facilitation Centre, the SEWA Bazaar is a digital social enterprise that promotes traditional livelihoods. It is a collective platform providing both offline and online presence to women micro-entrepreneurs (Sewa Bazaar 2023)[11].

A young SEWA member with her electronic devices

A biometric authentication device, smartphone and a miniature printer

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[10] IMEI number denotes the International Mobile Equipment Identity number, a unique 15–17-digit code which is given to every mobile phone/device. This number is used by service providers to uniquely identify valid devices.
[11] See https://sewabazaar.org

The idea first took shape about 10 years ago after SEWA's 40th anniversary as an organisation. At that time, SEWA realised that the newer generation of SEWA members had a markedly different profile to the previous generations: not only were they younger and better educated, they were also tech-savvy and aspired to better jobs than their parents. Around the same time, a project was being implemented by SEWA, as part of which many youngsters were trained and received job placements in malls and supermarkets in cities. However, they found it challenging to fit in and eventually returned to their villages. The question which was being asked then was, "Why can't SEWA employ us?" This was a time when the number of social enterprises was growing across the country, which led to a lot of reflection and discussion within SEWA about the way forward.

A couple of years later, SEWA entered into a partnership with Amazon for the marketing and sales of items produced and marketed by SEWA members under different brand names[12]. These include Hansiba (a brand of traditional artisanal textiles), Harkhi (a clothing brand that marries traditional and modern ethnic styles) and Gitanjali (a brand of paper products made from waste/recycled materials). Eleven groups were involved in this programme. Under the partnership with Amazon, a number of SEWA members received training on digital marketing, including how to capture and present product images, describe the product, manage inventories and deal with courier companies.

The Amazon experience provided several lessons, which have shaped SEWA's future decisions and actions. For example, one lesson was that Amazon and other similar platforms are not appropriate for artisanal handmade products, which seemed to be at a price disadvantage when pitched against mass-produced, machine-made products. Another principal lesson was that members and teams were not fully prepared to use digital platforms for marketing. Because of this, the outcomes remained far from satisfactory. Further, the costs associated with shipping and hosting (Amazon platform costs) had not been budgeted for, resulting in overall losses and adverse publicity. Further, the pressure to gain expertise in the totally new sphere of digital marketing was daunting for most of the artisans, who expressed their discomfort with the strategy, saying that they would like to focus on their core skills. Instead, they requested a separate team of younger members from their families to manage the marketing.

As a result, the SEWA Trade Facilitation Centre developed and trained a core team that acquired the requisite knowledge, skills and experience in various aspects of digital marketing, such as cataloguing and photoshoots, communicating the 'story' of artisanal producers and their products to consumers, and using digital promotion tools and digital payments. This led to the formation of the SEWA Bazaar.

Launched in October 2023, one of the key objectives of the SEWA Bazaar is to leverage the strength of SEWA as a brand name: a brand that is owned by its women members and can be implicitly trusted. Before, the existence of multiple brand names meant that different groups within the organisation were almost competing with each other. Instead, SEWA Bazaar brought them together under one umbrella network, supporting the entrepreneurs to reach out to larger markets. A complementary objective was to provide artisans with market intelligence and make them aware of consumer demands and preferences, enabling them to respond effectively. A secondary purpose was to tap into the huge market potential of SEWA members themselves (2.5 million) and their families, who are often not aware of what other members are producing in other parts of the network. Likewise, raw materials and services required for production or sales are frequently available within the network and could be readily accessed on competitive terms, such as fabric produced by weavers or services of youth with digital marketing skills . In this way, the creation of a digital directory that mapped the artisans, other members, and the skills available in their families was started.

SEWA Bazaar is not a single-point centralised collection and sales platform, but a collection of several decentralised sales hubs, in addition to a collective platform which is both online and offline. The decentralised hubs are the various sub-district or district-level CLBRCs, which witness a high footfall of

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[12] Other than Amazon, products were also registered with other online platforms such as GoCoop, Government e-Market Place (GeM) and Womaniya, which are ongoing and also benefitting from the support provided by the respective platform teams.

members as well as non-members. The SEWA Bazaar platform intends to strengthen the livelihoods of the approximately 100,000 artisans who are members of SEWA across the country. The objective is to raise the turnover to 2 million rupees, which will be one-and-a-half times greater than the current level. So far, direct marketing to consumers has been quite successful, for example sharing and resharing pictures via WhatsApp groups, and with Facebook and Instagram being used to magnify outreach.

At a larger scale and for business-to-business (B2B) linkages, the collective platform includes both online and offline modes. The former has been started with postings on Facebook, Instagram and WhatsApp Business, for which training is being provided. The plan is to bring in professionals to provide training to younger members (the children of the artisans), who will then be responsible for taking it forward. The training covers aspects such as making catalogues and completing digital transactions effectively; the younger members will subsequently be responsible for managing the backend of the app for the decentralised hubs.

Although the development of the online platform for SEWA Bazaar was outsourced, every step of it has been closely guided and mentored by the SEWA IT team in terms of its functionality, design and appearance. It builds on experience gained with the RUDI Grahak app (an app for customers to order groceries directly from RUDI), which has influenced the design to an extent. But more importantly, young SEWA members who are users of multiple online platforms have provided very helpful suggestions, particularly on the design aspects. The logo for SEWA Bazaar was also participatorily developed (Figure 5).
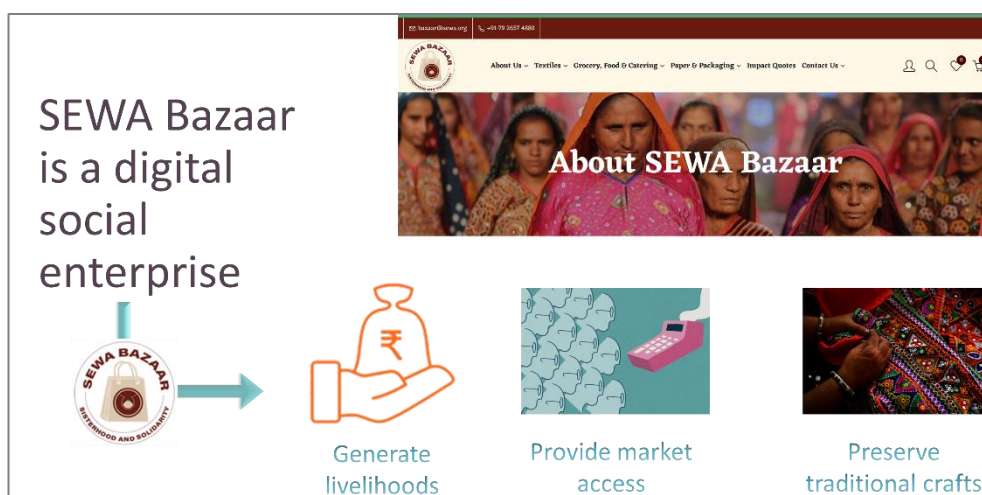

*Figure 1: SEWA Bazaar: the portal and its objectives*

7. Learnings and outcomes

The SEWA IT team considers the process of developing and deploying RSV (SEWA's first digital application) as a steep learning curve for themselves. Most importantly, they have decoded the intricacies of the process that need to be communicated to technical agencies for developing the digital application/platform, the time required and the procedural details of app development from conceptualisation to its final launch and use, and the importance of primary users' active participation in app development. Because of this, the team has greater clarity now on what exactly should be communicated to the technical agency and how it should be done, presenting them with a broad design framework for the user interface (appearance and features) at each stage, per members' requirements and capacities, for piloting test versions and building member capabilities for using the application, which has enabled them to take on bigger and more ambitious challenges in SEWA's digital transformation.

As with SEWA's other apps, mBachat has cut down the time and effort required on the part of the aagewans and also minimised the scope for errors. The cluster leaders use the time saved to mobilise other women and form new SCGs, leading to higher overall savings.. At the same time, it has lent greater transparency to financial transactions and made real-time information readily available to all

aagewans and decision-makers. Another outcome of mBachat is that there is no time lost between collection of funds from group members and their being deposited in the bank account, thus ensuring greater security and earning them marginally more interest. Some of the younger and more tech-savvy leaders have also become banking correspondents or Bank Sakhis (sakhi meaning 'friend' in Hindi), providing residents of the village with valued services such as cash transfers (deposits and withdrawals), online payments for utility bills, recharging mobile phone and getting or modifying their PAN (Permanent Account Number) cards, which have become a necessity now for availing individual loans from formal financial institutions. As of 2022, all the active SCGs supported by SEWA were registered with mBachat (2,087 groups), and transactions of 97% of the total of SCG members (26,221) have been recorded through the application. The users of the app are spread across 10 districts and 566 villages of Gujarat.

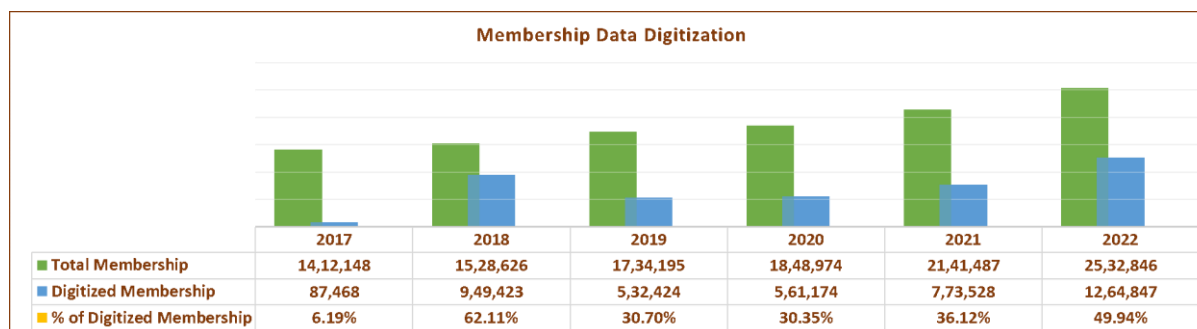*Figure 2. Impact of mBachat mobile savings on SEWA's members*
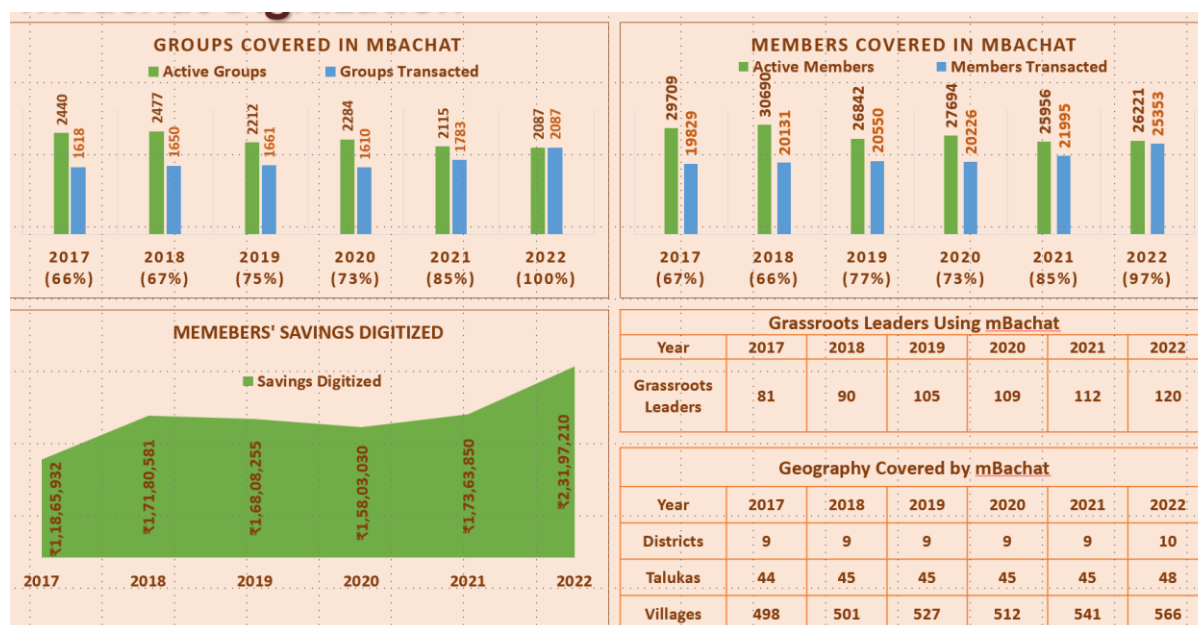
Source: SEWA (2023b)

On the other hand, the use of the MMS app has primarily been for streamlining some of the operational aspects of SEWA as a membership-based women's organisation. MMS has eased and facilitated the use of membership data for building the SEWA movement, and its user-friendly interface has enabled more leaders to use and become proficient with the application. As a result, operations have been streamlined, there has been an expansion of the membership base, and real-time data has become available to leaders at all levels in the organisation. MMS is currently also the base pillar of all digital interventions in SEWA, being linked with mBachat, RSV and the forthcoming SEWA App (which is under development and in the final stages), WhatsApp Business and Facebook Workplace (both also in the formative stages). In terms of the impact of MMS, the most remarkable one perhaps has been the identification of duplicate entries and subsequent cleaning of data, making it more reliable and robust.

Although the adoption of MMS was slow initially (with only about 6% of members digitised in the first year), there was a steep rise in the second year, with 62% digitised. The total membership strength continued to increase thereafter, but the percentage of all members digitised dropped to 31% in the third year, as many duplicate entries were identified and deleted. Subsequently, the process has been streamlined and the total number of members in 2022 stood at 2.53 million, with about 50% digitised.

Figure 3. Impact of MMS use on the digitisation of member data

Membership Data Digitization

	2017	2018	2019	2020	2021	2022
■ Total Membership	14,12,148	15,28,626	17,34,195	18,48,974	21,41,487	25,32,846
■ Digitized Membership	87,468	9,49,423	5,32,424	5,61,174	7,73,528	12,64,847
■ % of Digitized Membership	6.19%	62.11%	30.70%	30.35%	36.12%	49.94%

Source: SEWA (2023a)

In the journey of SEWA Bazaar so far, the greatest achievements have been the revelation of in-house talents and the willingness of everyone involved to commit themselves 100 percent to the initiative. For example, the creation of posters, reels, voice messages, artisan stories, modelling and even photoshoots for the website have all been handled by the members with professionalism and effectiveness. The beginnings are extremely promising as it is becoming evident that SEWA Bazaar is there not just to sell members' products, but also represent a set of values and ethics that they embody.

Many of the digitalisation initiatives have been supported through projects undertaken by SEWA, which are usually supported financially by different partners. In many instances, the funding agencies like to recommend the technical agencies that SEWA should work with for development of an app. Sometimes, they also venture into making suggestions about the functionalities to be captured in the application. This has sometimes proved to be counterproductive, or led to low rates of adoption and use. The biggest challenge for the IT team is to integrate diverse applications when they are designed and developed by different agencies, because the programming at the backend can be very different. Going forward, they would like to be able to work consistently with a single agency.

For SEWA, one drawback of having multiple platforms, apps and modules is that each login requires a different user identity and password, which makes it slightly cumbersome for less proficient users. This has had an impact on their deployment and integration within the teams at the cluster and district levels. To counteract this, the forthcoming SEWA App is being developed, which will have internal and dynamic linkages with the MMS, mBachat, RSV and other SEWA digital platforms and apps.

A few general lessons can be drawn from the overall experience and approach adopted by SEWA in the use of IT to empower women:

- Whereas the use of IT by rural and semi-literate women producers, artisans and microentrepreneurs may appear to be a longshot, it is possible to enthuse and train them to adopt new technologies and put in the effort required to not just learn new skills to keep abreast but to also become competent users who personify women empowerment.

- On the part of the facilitating agency (SEWA), it was found that building in the users' perspectives from the start has yielded rich dividends. This was done by involving users at all stages of app development: from sharing the concept with them, through to designing the user interface, piloting, deployment, capacity building and revising/upgrading the application, as was done with RSV and SEWA Bazaar. At the same time, this meant that the IT Team anchoring the initiative in SEWA had to be aware of user capabilities, while working closely and proactively with the external agency at every stage of app development. This included basics such as sharing the look and feel of the screen, to providing feedback on the beta and finalised versions, while continually interacting with the users and building their capacities.

- Instead of a sudden transition to digital, a gradual and piecemeal approach may be more suitable where user motivation and capacities are a constraint; it gives them the time to experiment, learn and gain confidence to function effectively in an ever-evolving technological landscape. In the same context, the concept of 'digital readiness' as defined by SEWA is noteworthy. This requires that users are equipped with digital devices, have developed the capacities to use them, and are supported by adequate digital infrastructure, (network connectivity). At the same time, users need to

be made aware of the importance of online safety and security measures, especially when using the device for financial transactions.

- The desirability of long-term engagement with the technical agency hired for app development is crucial: Sasken's role does not end with the development of an application or tool, but continues to include revision and, in the case of SEWA, they are also responsible for ensuring that the data is routinely backed up and kept secure. A related learning is to work with the same agency for the development of different and/or complementary tools and applications, for ease of integration of data at the back end.

- Some important features have been incorporated into the design of SEWA's mobile apps, which have been learnt through experience:

  o Data is not stored on users' devices, thus utilising negligible memory on the local device (phone or tablet).

  o Dedicated human support and expertise is available to users who face problems or feel challenged while using the technology. One member of the SEWA IT team is always available for active and prompt resolution of user queries.

  o Capacity building support is provided through multiple tiers. In addition to the central IT team, one IT person is available to each district association to provide training and technical support, and master trainers at the cluster level provide training for users at the grassroots level. In addition, members who are known to be tech-savvy and competent in the use of a device or an app are frequently called upon by new learners whenever they face any issue with using an app or setting up a new device (peer learning).

8. Conclusion

When SEWA's digital transformation began over a decade ago, it was at a time when the use of mobile telephones was uncommon and was therefore low key. Today, it is one of the most advanced civil society organisations in India as far as the use of IT by its members is concerned. This transformation has been possible because of SEWA's futuristic outlook and long-term planning with steadfastness of purpose, its ability to leverage funds and other resources in pursuit of its goals, and a dedicated and stable IT team within the organisation. After the successful rollout of RSV, mBachat and MMS, confidence levels have soared, and more ambitious programmes – such as the forthcoming SEWA app – are beginning to appear like exciting challenges to be conquered.

The COVID-19 pandemic that brought regular work and mobility to a standstill was a powerful driver. It necessitated the adoption of IT by the wide base of grassroots workers that define and carry forward SEWA's work in rural areas. The urgent need to administer and manage basic relief activities (such as providing food rations and protective gear during the extended periods of lockdown in the country) compelled workers to become familiar with the use of IT, for which they received continuous capacity-building inputs and support from the SEWA IT team. The experience fundamentally altered the way that SEWA's members interact, communicate and conduct their operations, easing the way for the adoption of other digital advances. The aim now is for every SEWA member to be connected with the entire network and to leverage the market potential that is offered by 2.5 million members and their families. To make this dream a reality, the latest initiative of the SEWA app is under development.

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