

Digital

Desh

Drive

3.0

Karnataka



FOREWORD

In 2015 team NowFloats took on the audacious mission to deeply understand the next billion Indians who are adopting technology and internet.

The same year we drove across India to understand and uncover 'Inside the Internet of India'. The journey inspired us beyond our imagination. Over the past 2 years, we have travelled across the country multiple times, to deeply understand the next billion Indians adopting internet, smartphones and technology. Our journey took shape of what we call the ‘anti-survey’. We no longer ask scripted questions; we simply tune in. We listen. We observe. We understand. We try to live their lives. We even try to use their mobile phones. This is how we capture data and build powerful hypothesis that is the fundamental foundation for Digital India.

In December of 2016, we drove across Karnataka. We explored almost every part of this incredible state including Ramanagar, Mandya, Mysuru, Kodagu, Dakshina Kannada, Udupi, Shivamogga, Daven-gere, Haveri, Gadag, Bagalkot, Belagavi, Uttara Karnataka, Dharwad, Koppal and Ballari. The team (Ishaan, Nikhil and Aakanksha) spent a gruelling month driving and documenting ‘Inside the Internet of Karnataka’. We focused on the impact of demonetization and the changing landscape of vernacular Internet. But, as always, we came back with a lot more information.

Digital Desh has been fortunate to be supported by incredibly passionate people who share the dream of an incredible India. Our last book, the Digital Desh Drive Book 2.0 was launched by the Hon’ble Minister for Law, Justice & Information Technology, Govt. of India, Shri Ravi Shankar Prasad. The sponsors for Digital Desh 3.0 drive include: Verisign, Zinnov, Omidyar Network, Blume Ventures, Microsoft Ventures and CNBC Young Turks.

I invite you to explore ‘Inside the Internet of India’ and be part of the next Digital Desh Drive.

Thanks,
Jasminder Singh Gulati

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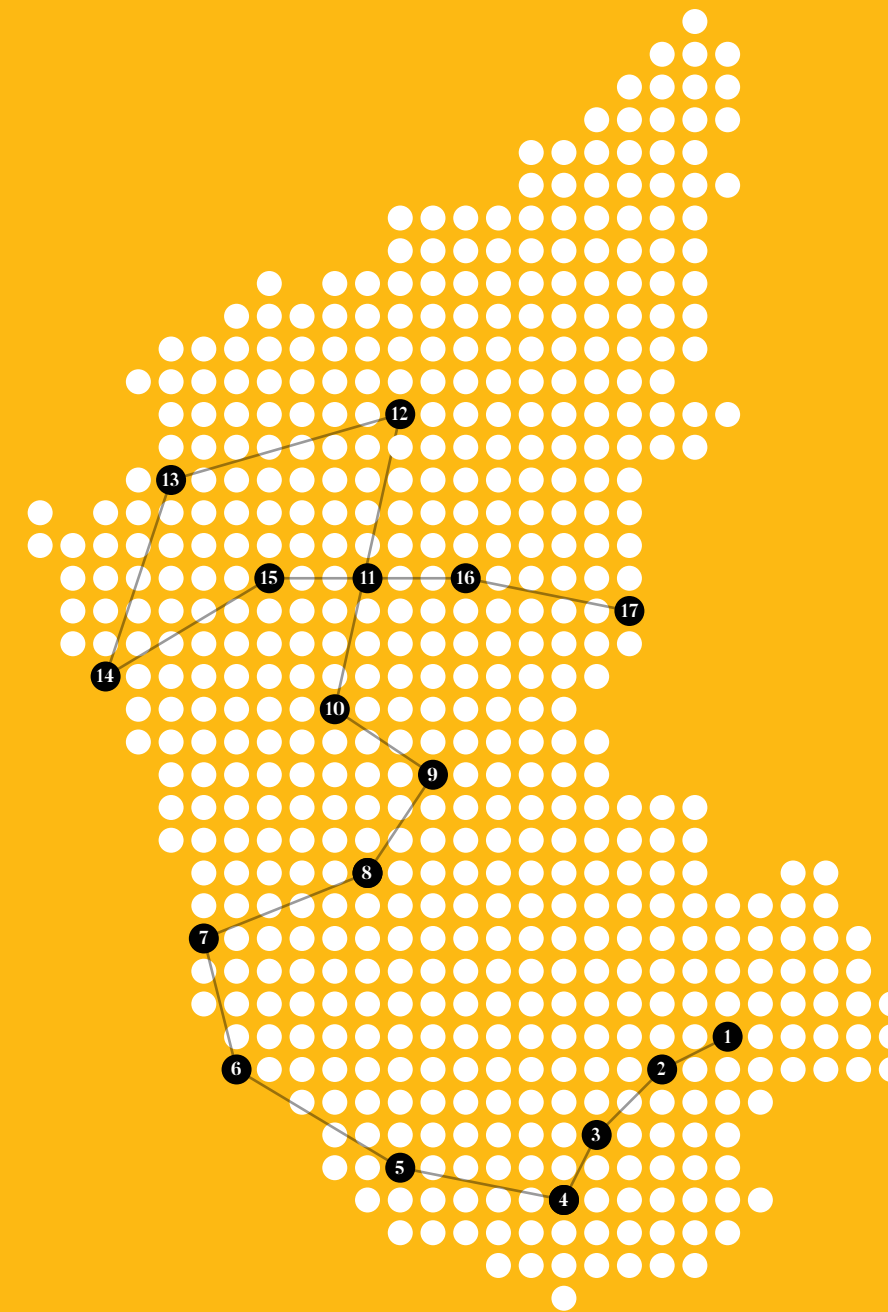
The Journey

Why do we take these ‘Drives’?

Digital Desh Drives take inspiration from the great Indian tradition of ‘The Pilgrimage’. This is our quest to understand Bharat and how people are adopting digital technology to grow business and communities. The drives take us deep ‘Inside the Internet of India’.

What to look forward to in the Book?

This edition of the book brings to you stories from inside the internet of Karnataka. Stories of early adopters and how they are setting trends that can potentially change industry dynamics. Woven into these stories you will also find data that shows the current status of digital adoption in Karnataka and emerging opportunities.



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Photography by Ishaan Gupta

The Handloom Story

In and around Mysuru, the early bird never catches the worm because the worms in this region fuel an industry that employs and provides sustenance to millions of people in Karnataka. Although INDIA caters to 95% of the handloom demand globally, the industry has not seen substantial growth in the last decade. The handloom industry employs 2.6 million households all over India and 4.6 million people are dependent on this sector. For that reason, this is an industry that should not be treated lightly. The need of the hour is to digitally enable this sector to help create a higher demand for handloom products.



95% of World's handwoven fabric comes from India

A skilled labour industry where skill is transferred from one generation to another, it contributes to 15% of the cloth production in India. It is one of the largest employers after agriculture and employs around 4.3M Indians, and supports around 2.8M households.

Weaving is the only skill that the majority of the 2.9M weavers possess as 60% of them have very little or no education. Out these weavers, 87% dwell in rural India, with 3/4th of them being women. The average annual earning of a weaver is Rs. 37,700 and that of the allied worker is Rs. 29,300.

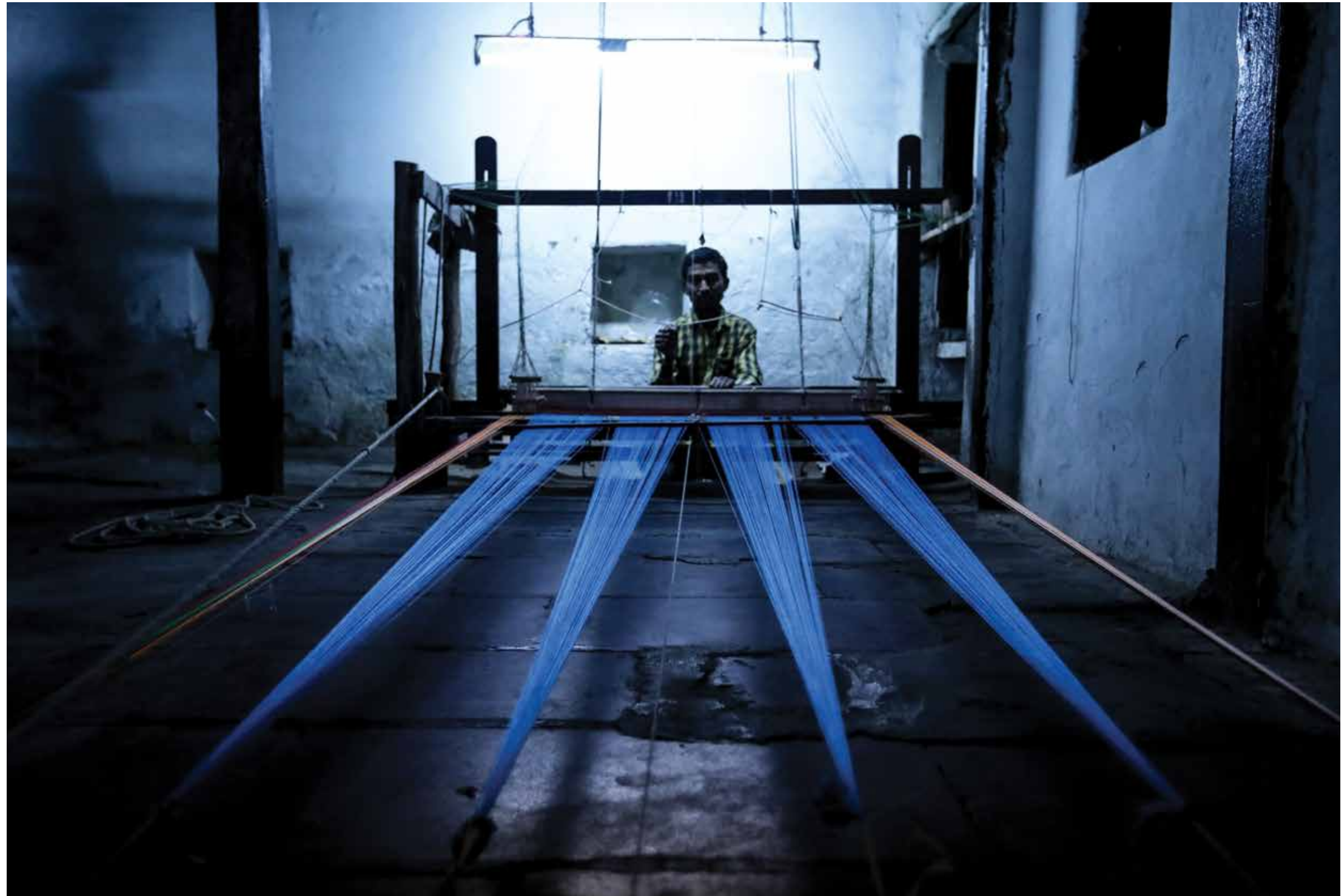
Karnataka

The Handloom Industry in Karnataka employs around 180,000 workers and directly supports around 38,000 households. Out of these only 50% households have looms. The saree is the major product of this industry and contributes 30% to the total production.

Back in 2007 The Ministry of Textiles, Govt. of India adopted a granular approach by developing block-level clusters and supporting them as per their individual needs. The National Handloom Development Programme was also amended with a higher scale of funding and the implementation was entrusted to agencies, which included SHGs and weavers' co-operative societies, ensuring direct fund transfers in the beneficiary's account. The clusters would also enjoy Developments Centres with design support from NIFTs and private designers.

For the year 2015-16, 3 proposals were received by the MOT from the Govt. of Karnataka for funds for handloom cluster development. Two of them were rejected as the implementing agencies were incurring losses. The only one left was the Hunagunda Block Handloom Cluster in Bagalkot District, for which the Govt. had to certify the profitability of the implementing agency.

We take a look at Ilkal, a small village in this cluster; it was once a major weaving centre but today, there are less than 400 weavers left.



Ilkal's handloom Industry

During 1995 to 2011, the number of handloom workers in India has dropped from 6.5M to 4.3M. Ilkal, an ancient weaving centre that is particularly famous for its sarees and kasuti (Karnataka's G.I. protected embroidery) work, and whose weaving tradition dates back to 800AD, has seen a steeper decline in the number of weavers. From over a 5000 weavers in 1995, there are just about 400 today. This can be attributed to a couple of factors, none of which involves the weavers directly.

The emergence of Granite mining and processing industry in Ilkal made a lot of textile merchants change their trade. Additionally, the subsidised powerloom eliminated handloom workers at rate of 6 workers per powerloom. While a handloom weaver takes about a week to make a saree, the powerloom makes three per day.

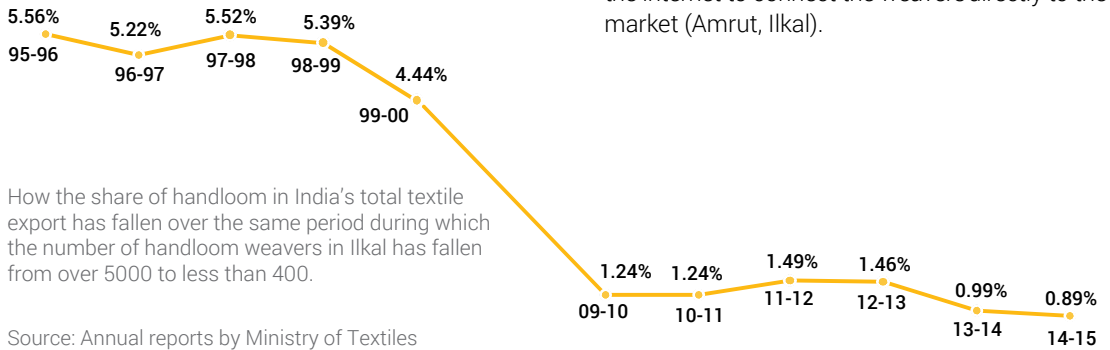
Unfortunately this disproportion does not reflect onto the price, which is controlled by the wholesalers and not the weavers.

Due to this immense disconnect with the market, these skilled weavers have been reduced to mere labour who are paid a nominal amount on every saree that they produce. Lack of credit worthiness means they have to rely completely on the wholesalers or the government for yarn supply and the subsequent purchase of their produce.

As the weavers are disconnected from the market, they do not know the value of their skill. They are unaware that a silk saree with kasuti work might take 10 days to make but can fetch Rs. 15,000 in the market. This isolation is also responsible for the depleting number of weavers and the miserable condition of the ones who remain.

We bring to you two stories that are potentially changing the fate of handloom weavers.

These two digital age entrepreneurs, are trying to eliminate the layers between the weavers and the market. One uses the internet to research for market hubs (Javed, Madikeri) and the other uses the internet to connect the weavers directly to the market (Amrut, Ilkal).



Source: Annual reports by Ministry of Textiles



Ilkal Village, Dist. Bagalkot

(Em)powering the handloom

AMRUT BIJJAL
Entrepreneur

“2009 mein start kiya tha tab 2-3 saadiyon ke order aate the. Abhi toh meine mahine mein 300 bhi bechi hai.”

(I started the business in 2009 by selling 2-3 sarees/month. Now I do orders of even 300/month.)

What started in 2009 as an experimental side business for Amrut, a Pharmaceutical wholesaler, is flourishing so much that today, he is considering making it his main business.

Amrut, a local, saw the value in the handmade sarees of Ilkal and started a Facebook page for selling them. With an aim to give the weaver as high a margin as possible, he started posting pictures of the sarees with his contact number so that interested buyers could connect. In 2009, he started with orders of 1 or 2 per month, but now he has orders peaking at almost 300 during

festive months. He plans to start his own e-commerce platform soon. Although development is not a problem, he says that he can't afford the cataloguing of the products with models.

Interestingly, he has made it easy for his customers to find him by naming previously unnamed roads and places in Ilkal on Google Map Maker. Now you can find him in his house on 'Bijjal Road' which runs perpendicular to the 'Old Municipality Road'!



Search for research

JAVED AHMED,
Entrepreneur

“Ek main aim tha, hai aur Insha Allah jab tak hasil hoga tab tak rahega ki mein ek entrepreneur banu.”

(My main aim was, is, and God willing will remain till I achieve it, to be an entrepreneur.)

It all started when he was preparing for his higher studies. The internet and Google Search were new to him. He googled for course material, coaching institutes and also for colleges he could enrol himself in.

After completing his MBA he decided to start his business with a friend. They wanted to sell authentic Kashmiri art products ranging from handloom made-ups, handicrafts to apparels and even Kashmiri kesar, which he could source right from the makers; and so he decided to turn

to Google Search. As his target market was foreign tourists and most of his products were tailored for the winters, he started researching for Hill Stations across the country to understand the weather and tourist patterns. Soon there was a list ready and he took off.

Today, he has ticked two stations on the list, with two shops in Pachmarhi, Madhya Pradesh and one in Madikeri, Kodagu; and as a smiling Javed would say, 'Inshah Allah' many more will follow.



The Agriculture Story

Agriculture contributes 24% to Karnataka's GSDP and 65% of the state's workforce is directly or indirectly engaged in it. Agro products are grown in about 90% of the 12.1 million hectare of cultivable area with the main crops being sugarcane, rice maize and cotton. Although horticulture takes place on only 10% of the total cultivable land, it contributes 40% of the ₹ 178.85 billion generated from the total cultivable land in Karnataka, with coffee and areca nut being the main crops. Out of the 7.8 million farmers, 76% belong to the marginal and sm category where each of them own less than 2 hectares of lan (Palahalli and Bevoor farmers).

Coffee is one of the highest exported horticultural crops and makes for 1.24% of Karnataka's total export. Hence, it possesses a high potent for value addition (Naren, Virajpete).

As far as seasonal crops are concerned, access to the right informati at the right time can help farmers increase their yield and also try crops for other seasons.

Our next stories will throw light on both sides of the coin – the use of technology and the need for technology. One hand, we have farmers who use the internet to manage their businesses and expand upon its potential but on the other hand, we also look at the cash-strapp digitally illiterate small farmer whose fortunes could be positively affected with the right kind of digital intervention.



A case for 'value' addition

NAREN,
Coffee Plantation and Brand Owner

"I was surprised by the effect of the internet when I saw 19000 views on my month-old website. Surely now we want to go all out on Facebook and Twitter."

Naren was surprised by the fact that people search for coffee on the internet. His opinion changed when his newly-started website attracted 19000 visitors. In fact, he is planning to launch his e-commerce website to sell coffee.

Naren comes from a family who have traditionally been in the business of coffee plantations. They used to sell only the raw material.

He was exposed to the internet about twelve years ago but at the time, he would only browse casually. Gradually, he began using Google Search to research coffee and when he came across some brands and their retailing prices from other countries, he realised that his coffee can be sold at a better price. That's when he decided to get into roasting coffee, and created a brand of his own. It has been three years since he launched his brand with his partner and he acknowledges the value addition.

A digitally savvy Naren does 70% of his financial transactions online through apps like HDFC, PayZapp, SBI Buddy and Paytm. But he is slightly inconvenienced when it comes to paying the salaries of the estate workers in cash because they still don't have bank accounts.

All his accounting and bookkeeping is safely stored in the cloud with the BookKeeper App. He also had very interesting views on demonetization. He claims that it has pushed the spice trade -which was mainly a cash trade to go 'legal'. The only negative thing, according to him, was its timing. It overlapped with the harvesting season, which is when farmers tend to need liquid cash. But overall he is pleased with the move as he feels that you can sleep in peace when all your money is accounted for. In his business journey he has had two major realisations - the value of coffee once he got into roasting, and that of the internet once he created his own website!



Not enough cash to harvest

VIRUPAKSHA (second from right), MANU (third from right) & GOWDA family, Rice Farmers

“Whatever we make this season from the harvest will go towards paying for the loans we took to rent out machinery required.”

Post demonetisation, a family of rice farmers in Palahalli were struggling to gather enough cash to carry out the harvesting.

In order to harvest crops, they needed to rent machinery. Due to a lack of strong credit-worthiness, investing in their own machinery was impossible; especially since this machinery would not be used regularly. The borrowing of machinery required cash as that was the only mode of payment accepted by lenders. As mentioned by Naren (Virajpete), this was the impact of the overlap of demonetization with the harvesting season.

The lack of cash compelled the farmers to go to money lenders and borrow cash at high interest rates; and as explained by Virupaksha and Manu, their profit would get consumed by paying interest to the lenders.

Both sons have smartphones but have been exposed to internet only after the launch of Jio. For now, their online engagement is restricted only to messaging, social media and entertainment with apps like WhatsApp, Facebook etc. They are not even aware of the apps they could use to enhance their knowledge and improve their farming, which currently is a six month-long occupation. Their only other mode of income is a small household dairy.



Enough apps to harvest

Gowrishankar (centre), Shivappa Gowda (left), G. M. Hadli (right), Farmers

“We are seven farmers who are also friends. we all have smartphones and share information about any new apps we might find out about.”

Gowrishankar is the admin of a WhatsApp group of about 7 farmers who collaborate for farming activities.

Unlike the farmers in Palahalli, he is digitally active. For the past two years, he has been using the Kannada-only KrishiMitra app launched by the Karnataka Government for agricultural news, RTC forms, crop rates, weather reports, and contacting Govt. officials. He also used AgriApp to learn about different crops, their yield time, the nutrition required, crop diseases, and its protection etc. For detailed weather info and forecasts he uses the AccuWeatherapp.

When it comes to levels and alignments with the machinery he uses, the Bubble Level app, the GPS Field Measure app, and Indian Land Units Converter come in handy to do crop and land area measurements. He even has an app that lets him calculate belt lengths based on pulley diameters. Geeky!

He on-boarded the Oxigen app while it was promoted in his village. He also uses Freecharge for mobile recharging and mRupee for transactions. He stores his land records and other documents on the Digilocker.

As a small agricultural community, they have to rely on middlemen to take their produce to the market, unlike the bigger belts in the neighbouring districts of Gulbarga and Raichur where farmers supply directly to big brand stores. He wishes to have a simple-to-use accounting app that can help him calculate and manage every bit of expenditure like labour, seeds, irrigation, fertilizers etc.

Another problem that they face is the time lag between release and receipt of information pertaining to insecticides and pesticides. This is a huge problem because pesticides and insecticides have a limited period of effectiveness, and timely information is very essential.



From waste to wealth

SUREKHA & DIVYANATH SHETTY,
Entrepreneurs

“we started this business as it was an eco-friendly way to manage the waste from our areca nut plantation.”

Surekha and Divyanath live in Kavu village, and run an areca nut plantation and a small dairy farm. They soon realized that the dry palm leaves that fell off the trees almost every day made for bulky waste that was tough to dispose of. It was then that inspiration struck and an innovative approach was put into action. Their solution-starting a manufacturing plant that produced areca palm leaf plates.

Today, a modest shed stands next to their plantation where they manufacture this eco-friendly product. This small manufacturing unit provides employment to 30 locals, most of whom are women.

The brilliance and ingenuity of these entrepreneurs shows in the way they've made their business sustainable when it comes to waste management. While the fallen palm leaves are used to manufacture the plates, the waste created during the manufacturing process is further shredded and used as fodder for the cattle in their dairy farm.

If that isn't enough, they also use some of the cow dung as manure in the plantation. The rest of the dung is used as bio-gas in the house for cooking and to heat the machinery that manufactures the plates.

Recycling is so deeply ingrained in the way they work that their old vehicles can be found on OLX for purchase. Google is often used to research machinery for their manufacturing unit and WhatsApp, to send sample pictures of their products to prospective clients. Even though they have a busy work schedule, they take the time out to keep in touch with friends and family through IMO and Facebook.

This inspirational story of Surekha and Divyanath makes for the perfect start for our next section that focuses on entrepreneurs.



Entrepreneurship the Old and the New



TAXI
HOME

Multiple digital presence

M. N. VENKATAKRISHNA,
Entrepreneur

“My hobby is inventing new products. Three to four products have been invented by me.”

Venkatakrishna, runs his business from his office that's by his house. If you have ever drunk a cashew apple juice or a cumin coriander drink chances are they were made by him.

A manufacturer, distributor, and reseller of food products such as fruit squash, soft drinks, honey, pickles, masala powders, fruit jams and the like, he markets his products under brand 'Madhu' with the parent company named Madhu Multiples. Unlike many in his generation, Venkatakrishna made sure he was digitally forward way before the digital revolution began in India. He's been an internet user for the last two decades but his shift to a smartphone was a lot more recent – just five years.

Savvy with the digital medium, he sells his products on his e-commerce portal and also has a corporate website.

Having understood the significance of being present on social media, his business can be found on Facebook and LinkedIn. Add to that, he is listed on marketplaces such as IndiaMART, Justdail, TradeIndia and a local e-commerce portal, www.myputtur.in.

Venkatakrishna is not to be left behind when it comes to using apps for business. He uses the Vijaya Bank app for financial transactions and an app by the name of e-Order that helps him manage his sales team. WhatsApp is used to share sample product images and to negotiate prices with his resellers. Google Madhu Multiples and the first three search result pages are full off the company's digital footprint - a testament to its strong digital presence!



The early adopter

S. K. JAIRAJ,
Hotel Manager

“Demonetization hardly affected me as 80% of my payments have been made online since 2009.”

Jairaj has been managing a hotel in Madikeri for the last eight months. Originally from Tamil Nadu, he was introduced to the internet in 1998. Since then he has been using the net on his PC, migrated to using it on his laptop and now, his primarily usage of the internet is on his smartphone, which has been the case for the past six years.

His wife, a banker at Indian Bank, introduced him to online payments in 2009 and since then, he's never looked back. Everything from the payment of telephone bills to his grocery and LPG bills are paid online.

With the advent of apps such as Freecharge, his transactions have moved away from his PC to his smartphone. The added incentive, in his opinion, are the offers and cashbacks that come with using an app such as Freecharge. Comfortable with banking apps we well, he's familiar with the likes of State Bank Buddy, IndPay, CANMobile, U-Mobile and the Union Bank of India UPIApp.

With a presence on Facebook, the best aspect of social media, he believes is that he now has the ability to remain connected with his old friends from school. WhatsApp is used by him primarily for supplier interaction. And if it is entertainment he's looking for, YouTube is his destination of choice.

The hotel where Jairaj is a manager has seen a boost in its digital presence ever since he joined them. Today the hotel has a website, is present on sites such as Simplotel and has a presence on hotel aggregator sites such as Bookings.com, Oyo rooms, TripAdvisor and Golbibo as well.



Pacing with the fast world

MAUSIN KHOJA,
Entrepreneur

“I started with selling 85 bus tickets in the first month. A year later, on the same month that I started, I sold 3198 bus and 253 flight tickets.”

Mousin's journey as an entrepreneur started four years back when he opened a travel agency with his partner. Business was going well when he saw how the online travel portals were disrupting the industry.

He wasn't worried about these portals as he believed that his business was less about travel bookings and more about the relations he had built with his customers. To him it was simple - no online portal could take business away from him or from any travel agent who personalised travel experiences for their customer. But he also understood the importance of adapting to the digital age and so, in February 2016 he launched a B2B booking travel website named peacetravels.com. A platform for travel agents to manage their bookings and itineraries, he developed this website with the insight on the pain points faced by travel agents. So in February 2016 he launched his B2B travel booking portal, www.pacetravels.com.

A business that started out with 85 bus tickets booked by twenty travel agents has now grown to a network of 713 agents who have booked 28821 bus tickets and 16809 flights tickets on the website.

Mousin also tailors packages on his portal that agents can book directly on the website. And all this is just the beginning! He is planning to expand his presence to Maharashtra and is also working with his 15 member development team on a new B2C platform that he plans to launch soon. Talk about digital inspiration!



Like son like father

GULAB KHAN,
Businessman

“Mere bete ne mujhe flipkart samjhaya. Ab mahine mein dus hazaar tak ka shopping ho jata hai.”

(My son taught me how to use Flipkart. Now I end up shopping for things worth 10,000 rupees every month.)

Gulab Khan is a toy factory and emporium owner in Channapatna, a town that has around 2000 toy manufacturers. This number however is on a rapid decline due to a fall in demand for toys from the domestic market and also because the town has a problem of regular power cuts that does not allow for smooth operation.

A recent adopter of the digital realm, Gulab has been using the internet for just two years. A common factor amongst entrepreneurs we met across this region, he too uses WhatsApp to send images of his toy designs to clients. He's seen the impact of going digital on his business with the likes of WhatsApp drastically reducing the length of his operation cycle. Where previously, the production process would only start once a sample was sent to Bengaluru and then approved, now all it takes is a quick snapshot of the sample sent over WhatsApp and the approval and production ensues in a matter of minutes.

It was admirable to see the impact Gulab's son has had in making him go digital. While he doesn't have his own email account, he uses his son's to keep in touch with his suppliers and clients. And while he doesn't have a website a plan to build one is in the works. His clients, however, sell his products online.

An extensive online shopper, he spends around INR 10,000 on Flipkart monthly, buying electronic goods. From his Flipkart shopping habit to his ability to build customer engagement on Gmail and WhatsApp, his son has played a key role in getting him online.

Demonetization had a massive impact on his business with sales dipping by 50%. That along with the need to pay his workers in cash, as they don't have bank accounts, made life rough for him. With his son now helping him now to integrate digital payments in his business, he hopes for a smoother time ahead.



Gangs of Hosanagar



Local evangelism

SUDHAKAR SHETTY,
Businessman

“UPI accha hai. sab accounts ko link kar deta hai.”
(UPI is great because it links all bank accounts into one app)

Previously a manager at an institute, Sudhakar quit his job to start a garment retailing business in September 2016 in Hosanagara, a small village, of which he has been a resident for the past three years.

An expert when it comes to mobile payments and banking, demonetization hardly affected him as he was digitally equipped. The one shift he made was to use Paytm to collect payments from customers. Prior to that, he used the app only to recharge his mobile and TV connection while also using it for small purchases.

Sudhakar plays the role of a digital evangelist in his town. If a customer doesn't have the Paytm app, Sudhakar downloads it on their phone and teaches them how to use it. And that is just the beginning! He has also been promoting UPI

amongst his friends and has taught them how to use the app. Today, thanks to Sudhakar, they use the app to transfer money from their salaried accounts that belong to a bank with no presence in Hosanagara, to their local account from where they can withdraw cash.

He witnessed a definite spike in interest when it came to digital payments post demonetization. He now has customers and other town people alike coming up to him to learn how to use the likes of Paytm and UPI. Sudhakar has found that while the people of Hosanagara are eager and curious to adopt digital payments, smartphone affordability and network issues are the hurdles that need to be overcome.



A digital revolution

PRASANNA BHAT,
Student

“Abhi dus shop ko paytm pe laya hai.
Iske baad pure Hosanagara ko laenge!”
(We have on-boarded 10 shops on Paytm already. We now
plan to get the town of Hosanagra on-board!)

At a time when residents of major Indian cities were struggling with cash withdrawals and ATM lines, a group of motivated young volunteers were running a pilot program with 10 shops that they had gotten onto Paytm in Hosanagara. The reason for this? To understand the problems merchants face with digital transactions, help solve them and then scale the program to get the entire town on board. And this is a place that has poor data connectivity!

Prasanna, is one of the volunteers who are all part of an organisation called the Yuva Brigade.

With a presence across Karnataka, the organisation draws its inspiration from Swami Vivekananda and his commitment towards building the nation.

Digital Sanskar is a core focus area. Through this, the organisation wants to digitally create awareness of traditional and cultural Indian values. When they saw people struggling during demonetization, they took on themselves to not just help but enable people so it would help them in the long run with digital transactions and banking. Since then, they have been conducting awareness workshops and on boarding programs throughout Karnataka, an example of it being the town of Hosanagara.



Assited E-commerce

MOHAMMED SAIFULLA,
Businessman

“Ghar me jo padha likha hai woh smartphone use karta hai. Anpadh log jyada nahi karte.” (Only the literate persons in a household use a smartphone. The illiterate members are averse to using them.)

Mohammed has a small store on the fringes of a popular tea joint in the village of Hosanagara. What makes him and his store special is the amounts of e-commerce transactions he helps his customers with every month.

He helps around six shops every month with their procurement and inventory management online. Registered with StoreKing, Mohammed offers assisted e-commerce services to the residents of Hosanagara who want to shop on portals such as Amazon.



Learning never ends

DEEPAK PATEL,
General Store Owner

“I find it interesting to study stocks and their behaviour.”

When not running his general store in Hosanagara, Deepak can be found exploring the Angel Broking App to trade online and manage his portfolio. In the past six months, he has invested INR 10,000 in equity shares, NIFTY options and a couple of Indore-based companies. He likes to study stocks and their trends and the App provides him with all that information along with financial advice.

The stock broking app aside, he uses the UC News App and Dainik Bhaskar App to keep abreast of the news.



The Fisheries Story

With a coastline of 320 km, the seventh longest in India, a shelf area of 27000 sq. km, river resource of 5813 km, canals that are 3187 km long, and 565,000 hectares of inland water resources, Karnataka has of the potential of developing the fishing industry which currently employs 961,000 fishermen. About 34% of them are engaged in marine fishing and the rest in inland fishing. There is also a huge number of migrant workers from eastern states like Odisha and West Bengal who earn their livelihood as fishermen or workers here (Badi Totya Section).

The production and export trend of Karnataka is shown in graph 1 and 2. Over the years Karnataka has contributed only 3-6% of India's total value of marine exports, unlike 8-13% of the quantity (graph 3). This is due to the extremely low share of frozen shrimps, which fetches good value and constitutes 65% of India's marine export. Thus, there is ample potential for inland fisheries in Karnataka. Currently its inland resources, which employ 633,000 fishermen, are under-utilized at just 45% of the total capacity. Also, it is essential to plan for seed banking as the breeding season does not overlap with the monsoons.

Of the tanks which are with the Gram Panchayats, only 10-15% is utilized. The rest get exploited and that affects the ecology of the fishes. The management of these tanks requires the right kind of training, continuous education and monitoring.

Currently, Karnataka has only 4 training centres, but creating an efficient digital ecosystem for training and education can help solve this problem and increase sustainable productivity.

As far as the marine fishermen are concerned, while at sea they get notifications from the government on weather updates. The effort of the government to go vernacular with this communication is worth appreciating, but ironically, the majority of the fishermen and workers on the boat are migrants from eastern India.

The distribution and sale of their catch is yet to be disrupted by digitization as the Unions still controls and manages the trade.

Through our next two stories we will explore the existing digital landscape and the expectations within the fishing industry. Yes, smartphones are an important part of many stakeholders' tools but is digital technology truly providing the assistance the industry needs?



No need to be literate to be ‘digitally literate’

BADI TOTTYA
Migrant Fisherman

“I can’t read or write but have no problems using my smartphone.”

Badi Totty, a migrant from Odisha, works as a daily wage fisherman at the Malpe port in Udupi. He is semi-literate and is unable to converse fluently in Kannada. However, he does own a Motorola smartphone. He watches videos on Hotstar, the frequency of which has increased after getting a Reliance Jio connection.

He also shops online on Amazon and Flipkart. He pursues photography as a hobby and has over 15 photo editing apps on his smartphone. He downloads videos via VidMate and watches them on the VLC media player app. Since he is new to the town, he also uses Google Maps extensively.

To consume videos online, he uses the Jio Play app. He also has a SBI bank account which was opened for him by his friends. He prefers deposits in bank to carrying cash as the former is more convenient.



Malpe Port, Dist. Udupi

Still using the ‘telegram’, and quite effectively

HANUMANTH. S MOGER,
Boat Owner

Hanumanth. S. Moger is a boat owner at the Maple port. He uses WhatsApp to share pictures of his fresh produce with his clients once he reaches the port. At sea, due to network connectivity issues, he uses a WHP wireless phone for business communication. He has listed his business on Just Dial and is planning to expand his business by increasing customer/supplier interaction through the Telegram app. He is also planning to set up a business website to increase his visibility online.

Hanumanth uses the Flipkart app to shop for electronics and apparel. He also uses Jio Play, Easy Share, Shareit, Satellite Live, Vijaya Karnataka (for news) and Hotstar. He has a Samsung Note 3 (a dual sim phone with an Airtel and Jio connection).

The internet usage in the area is limited due to major electricity cuts throughout the day. The fishermen in Udupi usually leave at 4-5AM to fish and get back to the dock by 10AM. This 5 hour round takes place about 4 times a day.

The produce is then packed and transported to Mumbai, Kerala, and Goa. However, at times when sufficient produce is unavailable, they need to remain at sea for days.



Cloud saving boat's cargo space

SATTAR POKA
Boat Owner

“My fishermen send me pictures of special fish from the sea.”

When the boats are out at sea, sometimes the fishermen spot special fish whose market value they do not know. They catch one or two and if, and when, they find network, they send the picture of the catch to Sattar via WhatsApp. If Sattar finds the fish to be of any value, he directs them to catch more.

If he doesn't think it's valuable, he posts the picture on the WhatsApp group of his clients to see if it is of any value to them. This way he ensures that the fishermen do not end up wasting precious cargo space on the trawlers with useless fish.

WhatsApp is also used to send pictures of the catch to clients so that they can gauge the size and freshness of the fish. This is more of a 'customer engagement' exercise.



Facebook accounts > Bank accounts

NITIN GAONKAR,
Boat Owner

“Some fishermen have Facebook accounts but don't have bank accounts.”

Nitin, a boat owner, describes his workers on the boat by saying that if there is anything they are hooked on to, it is their smartphone. Many of the labourers in the industry happen to be migrants and are away from their families.

Some of them stay in places where there is no electricity, but they go wherever they can to charge their phones.

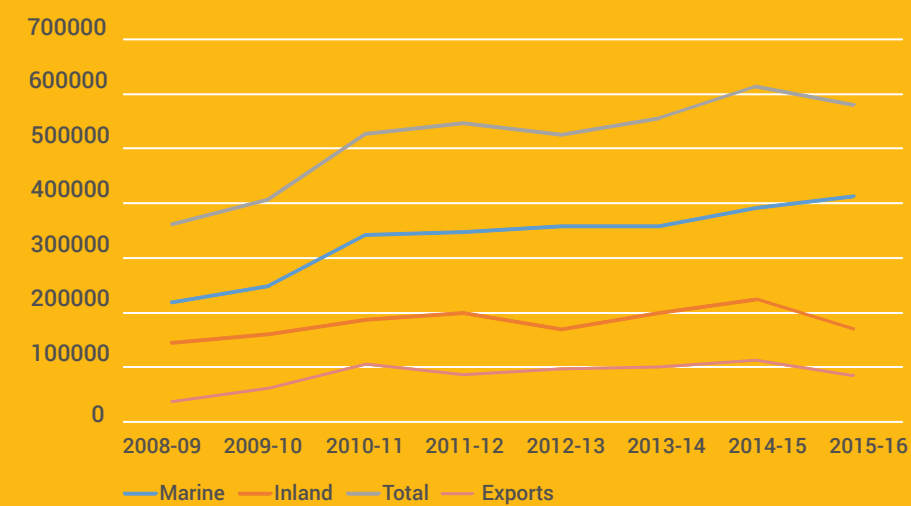
Demonetization affected them as the majority of these workers are daily wage earners without bank accounts. The interesting part was, whenever they had to send money back home, they would do that through the account of someone they trusted in the village.

As Karwar shares its border with Goa, the fishermen often find themselves in Goan waters and thus, in Goan telecom circles. Since they need to be in constant touch with their boat owners on land, they carry two different SIM Cards. The SIM card they use depends on which circle they are in.

One of the problems they face is that of constantly tracking their boats while at sea. The believe it can be solved using GPS.

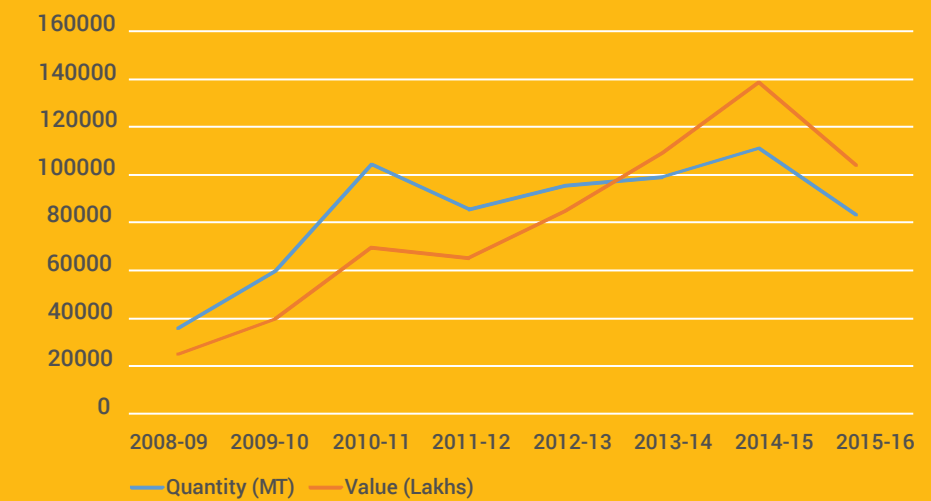


Fish production trends for Karnataka (MT)

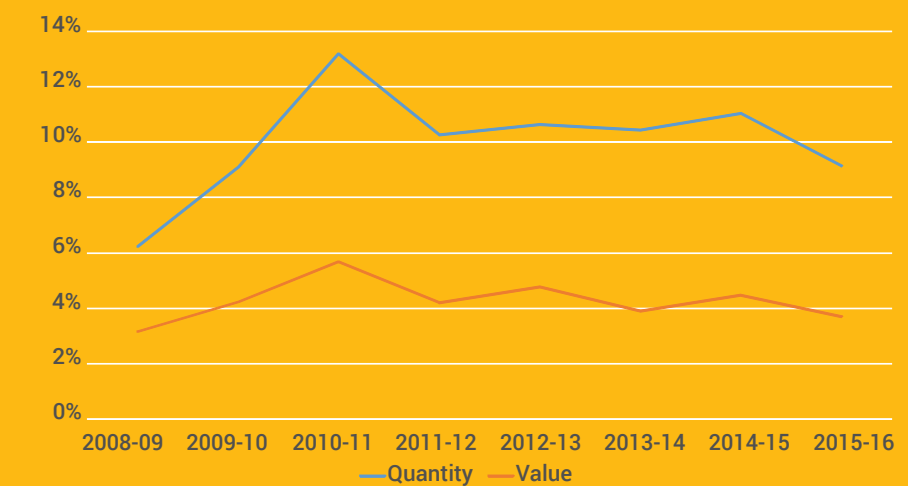


Source: Annual Reports by Ministry of Agriculture

Fish export trends for Karnataka



Karnataka's fish export as percentage of that of India



Services

The techie doctor

DR. GURUPRASAD NARAYAN,
Anaesthesiologist

“I have managed to save the lives of two patients solely because i could track their vitals remotely on my phone.”

Dr. Guruprasad has been practicing medicine for 22 years and if there is one thing that we found commendable apart from his good practice, it was his ability to adapt to technology. As an anaesthesiologist and a hospital owner, he values the importance of technology in his field and uses it to improve his ability to communicate, monitor as well as consult.

He uses a plethora of apps on his smartphone. These include SoftClinic for Hospital Management, iDMSS Lite, CMS Viewer for video surveillance of his patients, ICU Report to monitor patients' vitals, MedCal and Drips Manager for complex medical calculations, Ventilator, MyATLS for trauma care management to even Autocop TrackPro to track his ambulance. WhatsApp too comes in handy when another doctor's consultation is required.

Dr. Guruprasad decided to don the hat of a techie when he realised that technology could help him monitor his patients in the ICU, including their vitals, remotely. With the help of the right software partner and a few changes in the hospital's internet network he made that wish a reality. The ability to monitor round the clock showed the exercise was not in vain. He saved two lives solely because technology allowed him the ability to monitor them even when he wasn't on shift.

Apart from investing in technology for his hospital, he uses banking apps such as Syndmobile, SB Freedom, Axis Mobile. He also actively uses other finance apps such as Paytm, MoneyControl and MyUniverse. He believes that the lack of doctors on-boarding technology and leveraging it is primarily a mind- set problem and that if doctors choose to embrace technology in every aspect , it would only help enhance the medical practice without taking anything away from it.



The goats got internet too

DR. CHANDRASHEKHAR SAMBHAL,
Veterinary Doctor

“Life has become easy with the smartphone and internet; personally as well as professionally.”

Dr. Chandrashekhar, works at a government goat-breeding station at Anagwadi. His first experience with the internet was through his smartphone, one that he's now been using for two years. The resident Vet at the station, he now uses apps such as Veterinary Drug Index – India, Cinvex, VetCalc and Easyvet. All this apps help give him further direction with regard to drug dosages, route of administration, precautions that need to be taken as well as trade names for the drugs. These Apps are well complemented by the CIMS App, the current Indian medical dictionary.

The Xodo PDF Reader comes in handy for reading research articles and government documentation. Apart from using the internet for his practice, he shops on his smartphone on the likes of Flipkart, Amazon and Paytm.

Dr. Chandrashekhar uses the Mankuthimmana kagga-DVG App, which has works of Devanahalli Venkataramanaiah Gundappa(D.V.G.), which is considered of very high value and is often called as the Bhagvad Geeta of modern times. He also uses the Vivekvani app which has quotes and speeches of Swami Vivekananda.

He keeps himself informed with the Kannada newspaper app Vijayavani. And for entertainment? Hotstar and Voot, are his apps of choice.



Marshalling the digital art

NAGARAJ,
Martial Arts Instructor

“I learn from YouTube for free so I teach
my 300 public school students for free.”

A martial arts teacher who teaches in five schools, Nagraj has two smartphones that he uses extensively, a Samsung Note 2 and an MI when he can access 4G connection.

He uses a Kannada translation app named “ಔ” for translating things he doesn’t understand on the internet from English to Kannada.

He keeps himself up-to-date with the new forms of martial arts with videos he finds on YouTube. Ever since Karate has become an Olympic sport, the availability of Karate videos has increased online and this makes it easier for him to find them. He doesn’t keep the research just for himself but shares the downloaded videos using Shareit, with most of the 300 students whom he teaches free of cost at a nearby government school.

He also has the VLC Media Player App to view the downloaded videos offline. For communication, he uses WhatsApp and finds himself on Flipkart if he wants to shop online. He makes most of his payments digitally through the Canara eInfoBook, KBL m-passbook and an SMS banking App the KBL Apna App. For mobile recharges he uses Freecharge and Paytm.

He also uses KH Vehicles Details- Vehicle Registration App where he gets the details of a vehicle and its ownership by entering the number. This comes in handy when he dons his gram panchayat member hat.



‘Vernacular’ & Sanskrit

In 8th Century C.E., Adi Shankaracharya travelled the length and breadth of the country four times i establishing institutions and preaching his philosophy. Even though he could converse only in Sanskrit, he managed to effectively communicate with people wherever he travelled. This feat, in a time where there were more languages and dialects than there are today, was possible because almost every Indian language and its grammatical construct has its roots in Sanskrit. In fact, the solution for present-day problems around vernacular communication may lie in this ancient language.

Today, only a handful of villages in India have Sanskrit as the commonly spoken language. One such village is Matturu, which is located on the banks of river Tunga and is also known as the Sanskrita Grama (Sanskrit Village). Here, students learn Sanskrit and are taught the Vedas from the age of 10. Interestingly, the local language that is called Sanketi, is a mix of five languages namely Kannada, Malayalam, Telugu, Tamil and Sanskrit.

Another interesting fact about Sanskrit is that neither a single syllable nor its placement has ever been changed. This placement is detailed out by the great sage Panini in his book the Ashtadhyayi (Eight Chapters), which aims to systematically describe all possible Sanskrit utterances. The technical nature of this meta language reveals itself in this tiny yet complete book. Its sutra (rule) format allows for a great deal of information to be packed into a small space, or to state otherwise, in a complex set of interconnected rules. This interconnection of rules allows for the creation of networks that can be followed to create a Sanskrit phrase out of a thought. The structured nature Sanskrit’s grammar bears a strong resemblance to the way modern day algorithms are structured. This is why the efficiency of Ashtadhyayi has even been compared to that of the Turing Machine, the device that helped bring the Second World War to an end. It’s safe to say, Sanskrit can well be the language of the machines.

Sophistication in simplicity

CHANDRASHEKHAR,
Sanskrit Scholar

“I can teach spoken Sanskrit in just 10 days.”

A language, which Chandrashekhara puts as the linguistic expression of Indian thought, which has no redundancy, no ambiguity and a strong necessity to follow rules, creates the dilemma of whether it is a language or science.

He also claims that 90% of Hindi, 85% of Malayalam and 80% of Kannada and Telugu stems from Sanskrit, a language once only spoken, later written by developing the Devanagari lipi.

According to him, Sanskrit is an ocean of different branches of knowledge from technology to medicine to mathematics as all formulae or treatments are expressed as simple Sanskrit phrases.

Chandrashekhara teaches the language to people locally and globally using the likes of WhatsApp to share lessons and communicate, especially with the ones abroad. He encourages everyone to learn the language and even offers a 10-day course in spoken Sanskrit.

He believes that if Indian languages are to be protected it is Sanskrit that should be taken care of the most. That will allow all other languages to flourish. He acknowledges the efforts of the government and other organisations to spread awareness around Sanskrit but believes that an impact will only be made if people voluntarily take interest in it.



Digitally promoting Sanskrit

ANANTKRISHNA,
Teacher

“For quick chats I prefer typing in English. When I have time I type in Devanagari.”

Anantkrishna, a primary Sanskrit teacher from Shri Sharda Vilasa Shala in Matturu, is familiar and comfortable with the digital world.

He is a member of the ‘Sanskrita Bharati’, a non-profit organisation aimed at promoting and reviving Sanskrit via the digital space. Apart from introducing courses, where one can enrol via their website, the organisation has been successful in developing a few Sanskrit apps such as Sanskrita Amritum that can be used to learn the language and Ashtadhayi, a Sanskrit grammar app.

His communication preferences lie with WhatsApp, WeChat and Hike, the latter in particular because it's an Indian app. An interesting app we found him using was the Data Back App that offers back 5-10% of the data consumed on certain apps. This helps him out every time he exhausts his data plan. He also has a

Lenovo tablet that he uses for online shopping as he likes to see the products he shops for. Not shy of social media, he tweets in Sanskrit too! Demonetisation hardly affected him as he had adopted digital payments and a cashless way of life thanks to the Vijaya Karnataka Bank App and the SBI Freedom App, which he used for fund transfers.



A generation shift; in media and in language

ASHOK PINTO,
Newspaper Vendor

“I am exploring new business ideas
because i think the newspaper industry will
die out in another 4-5 years.”

Mangaluru is a city with a wide variety of vernacular population. Ashok, with his news vending shop in the main market is the best person to gauge this variety. He stocks newspapers and magazines in languages ranging from Kannada to Konkani. Although he still enjoys a loyal clientele which prefers reading news in newspapers, he claims that his sales have been gradually dipping over the past few years. Majority of his current clientele is above the age of thirty. He claims that around 60% of the newspapers he sells are in Kannada with Malayalam a distant second at 15% and Marathi in third at 5%.

What's interesting is the trend he is observing with the younger generation. Citing an example of his son who uses the smartphone like a pro, he says that the new generation prefers to consume news on their smart-phone, whether it is a news App or Facebook or YouTube and their preferred language is English.

At the age of 46, Ashok has bought his first smartphone after his young son kept pushing him to. The same pushing continues when it comes to downloading new apps.

In the next section we look at how the youth is becoming a natural promoter of digital technology whether it is in their family or peers.



The Youth

Digital goodwill

THASHREEF ARFAZ,
Student/Fruits & Vegetable Vendor

“My business didn't take a hit after demonetization, as i quickly digitised my payments.”

A small signage that reads 'Paytm and State Bank Buddy accepted here' hangs at a fruit and vegetable stall in Mangalore's New Market. Run by 21-year-old Arfaz, a B. Com. student at St. Aloysius College, Mangalore, he recently took over his father's business. Post demonetization, he was quick to on-board Paytm and the State Bank Buddy spp. He also helps his customers download and use the apps to make sure his business doesn't take a hit. To make life even easier for his customers he installed a swiping machine at the counter as well.

Don't let the façade of his stall fool you. Right at the back he has a computer set up on which he keeps a tab of his inventory. The computer is connected to an electronic weighing scale and a point of sale system by Essae. An astute businessman, to make sure he's up-to- date with the market prices for his wares, he uses the Price Check App.

But that's not the best thing about Arfaz. Even though he works in a competitive and crowded market, Arfraz finds time to help fellow vendors get onto the digital payments ecosystem.



A digital education

SHADAB KHAN,
Student

“Abhi toh books zyada use nahi karte.
online hi search karke padh lete hai.”
(I seldom use my books to study nowadays.
i go online and find all the information i need.)

Shadab, a first year B. Com. Student and helps his father Gulab Kahn run the business. Shadab is clear that he only plans to take over the business if the industry picks up. Having used smartphones for four years he has helped his father learn how to use WhatsApp and Gmail for client interactions. This includes sharing product pictures or sending invoices. Shadab uses the internet extensively for his academics. He turned towards the internet because he found there was a lot more information available online and that could not be found on school books. He uses Google to find old question papers and practices on them.

YouTube is his source for news and he shops online via the ShopClues app.

Demonetization had no effect on his online shopping frequency. He prefers using the SBI Buddy app to transfer funds and to be notified about cheque clearances over Paytm because of the app's monthly transaction cap of INR 20,000.



The everyday Indian

ROHAN ARKERI,
Student

“I want to be a DJ. I am learning
It with apps on my phone.”

Rohan has a smartphone but no data as it's too expensive. As a result, he accesses the internet through the free WiFi zones recently started in his town. These give him access to 200MB of data per day and when he runs out of it he uses his friend's smartphone. He aspires to be a DJ and has a bunch of apps and has been learning more about the art from through the likes of DJ Record Mixer, DJ Studio, MP3 Cutter and Virtual DJ.

We found his phone full of music that he had downloaded with the help of an app named VidMate. For chatting, his go-to's are ChatOn and WhatsApp.



Rural Banking & Digitization

Unknown to many, coastal Karnataka is the birthplace for 25% of India's nationalised banks. The Canara Bank was founded by Ammembal Subba Rao Pai in 1906 as Canara Hindu Permanent Fund. The Corporation Bank was started by Khan Bahdur Haji Abdullah Haji Kasim Saheb Bahadur in 1906 as Canara Banking Corporation Limited. In 1924, the Karnataka Bank was started as a part of the Swadeshi Movement in pre-independence India by B. R. Vys-arayAchar. The Syndicate Bank was founded by Upendra Pai, Vaman Kudra and Dr.Tonse Madhav Ananth Pai in 1925 as Canara Industrial and Banking Syndicate Limited. And finally, The Vijaya Bank was started by a group of farmers, all of whom were led by Attavar Balakrishna Shetty in 1931. Karnataka, is made up of 177 Talukas in 30 Districts. These districts form 4 Administrative Divisions, which houses a rural population of 39 million. There are three Regional Rural Banks (RRB) that cater exclusively to the banking needs of this population. We are focusing on the Karnataka Vikas Grameena Bank (KVGB) and its inspiration for the mission to digitize all 2033 villages in its region by enabling them with online banking and financial transactions.

Trust for the ‘Local’

RAMESH TUNGA,
Chief Manager, Planning & Development, KVGB

“We have the cushion of local touch, which is why people trust us... believe in us.”

KVGB, constituted in 2005 after the amalgamation of 4 RRBs, all sponsored by Syndicate Bank, caters mainly to the Belagavi Administrative Division and coastal Karnataka. That’s a total of 57 Talukas in 9 Districts with 1/3rd of Karnataka’s rural population and 2/3rd of the region’s total population.

The Bank enjoys 10% of the market share with 1.5 million customers and is also taking some innovative steps towards ensuring financial inclusion through digitization. As of December 2016, it had digitally enabled 13 villages and was aggressively pursuing the ones that remained. It has also opened as many as 1.45M PMJDY accounts, which is the highest by any bank in Karnataka. What’s interesting is that the approach they have taken sets them apart from the conventional banks and has allowed them to achieve the scale and success it enjoys today.

One such factor is its dense network of 615 branches and 528 ‘Bank Mitras’ (banking facilitators) but the secret sauce is the local recruitment, the ‘Bank Sakhi’ programme, which includes 79 married women operating as banking facilitators, and the newly launched KVGB App.



Little drops of water make a mighty ocean

M. SUDHAKAR SHENOY
Pigmy Collector for Mangala Credit Co-operative Society

“There’s been a decline in the saving habits of fruits, vegetables and fish vendors. Many have no extra cash to put into savings anymore.”

The viability of the Sakhi programme is based on the pillars of familiarity and trust, both important factors when it comes to financial transactions at the grass-root level. People are likelier to place their money into the hands of someone they trust –a model whose roots date back to the early 20th Century.

Pigmy deposit scheme
The foundation of financial inclusion by remote and mobile banking, a highly scalable prospect with digitisation, has its roots in an initiative of the Syndicate Bank in Manipal town of Udupi district. The Pigmy Deposit Scheme was started way back in 1928. Allowing for collections of as low as 2 Annas (INR 0.125) per person, this endeavour was started with the primary objective of providing financial support to the weavers of the handloom Industry who were then facing times of crisis, a little different than the one they are facing today (Page 07), by encouraging small but regular savings. Sudhakar is aware that the people who were affected the most by demonetisation are those who are digitally unaware and illiterate people.

Digital Village

S. RAVINDRAN,
Chairman, KVGB

“We are committed to making every village in our region a digital village.”

KVGB acknowledged this problem and decided to take on the ambitious task of making every village in their region, which also includes Mulki, a ‘digital village’.

The Bank’s aim is to ensure that every villager has a bank account seeded with Aadhaar and connected to their phones, a Rupay debit card and at least 1 KVGB App in each household.

The first of the 2033 villages was Sherewad in Dharwad district. Today, 3900 people in this small village of 4400 have bank accounts with almost 90% of them seeded with their Aadhaar number and also linked to their phone. Currently, the KVGB App is in pilot mode and there are 25 villagers and 25 shopkeepers in Sherewad who use it.

It’s fascinating to see the villagers flash their brand new Rupay cards as they visit their micro ATM. This micro ATM is not a shop but none other than Manjula Matti, the first of the 79 Bank Sakhis operating on behalf of the bank. Each Bank Sakhi has been integral to the delivery of KVGB bank’s vision of ‘digital village’. Whether it is helping villagers with checking account balance, transactions using their debit cards or hand-holding them as they learn the KVGB App, Manjula has been doing it relentlessly.



Bank Sakhi, a female friend of the bank

MANJULA MATTI,
Bank Sakhi, KVGB

“I do as many as 100 transactions a day.”

The Bank Sakhi takes a leaf out of the Pigmy system’s book and is a great innovation to combat low viability and high attrition amongst banking facilitators.

They are married women from self-help groups and play the role of a bank representative and facilitator in their village; additionally, they serve as micro ATMs. As a woman from an SHG who is involved in day-to-day banking and social transactions of the village, she guarantees sincerity and also enjoys the pre-established trust of the villagers. This very trust has helped KVGB to execute their vision of ‘digital villages’ at such a fast pace.

This particular initiative by KVGB is the first of its kind in Karnataka and the first in India to be implemented at such scale. There are already 79 Sakhis, and they are planning to introduce 300 more.

Insights

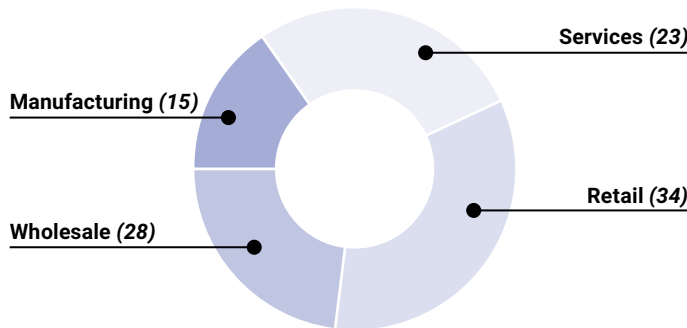
Drive demography

Areas covered: Badami, Bagalkot, Belgaum, Bevoor, Dharwad, Gokarna, Gadag, Hosanagara, Hubli, Hampi, Kodagu, Karwar, Mali, Mandya, Mangaluru, Manipal, Matturu, Mysuru, Shivamogga, Teerthalli, Udupi

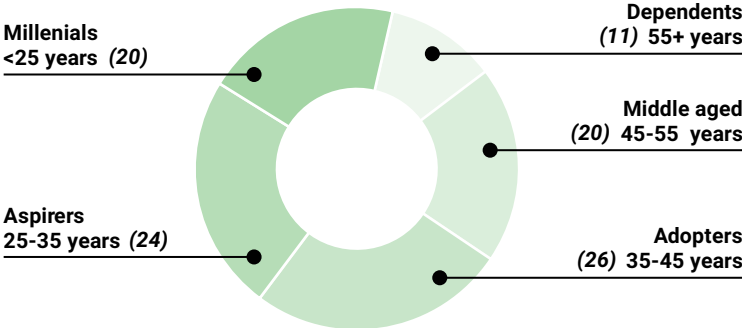
The data collection and analysis has been done for a sample of smartphone users with an active internet connection.

Duration: 16 Dec 2016–16 Jan 2017

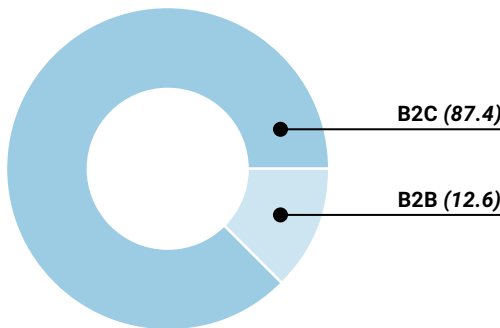
Industries (Correspondants–percent)



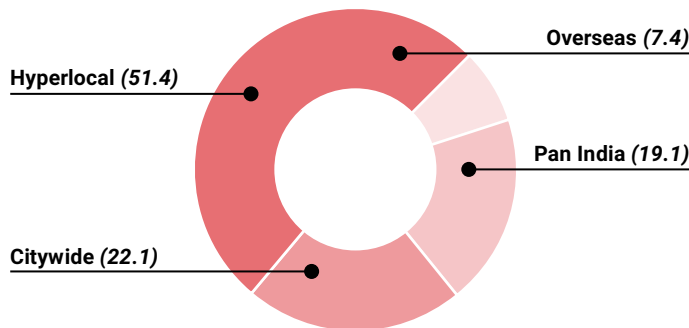
Age groups (Correspondants–percent)



Nature of business (Correspondants–percent)



Industries (Correspondants–percent)



Smartphone usage

Primary function

- Messaging
- Entertainment
- Social media
- Online shopping

Overall (Users–percent)



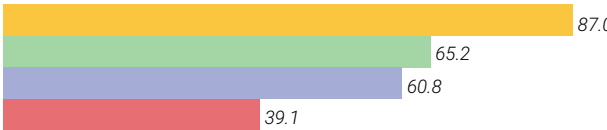
Entertainment includes people who consume entertainment on social media

Across age (Users–percent)

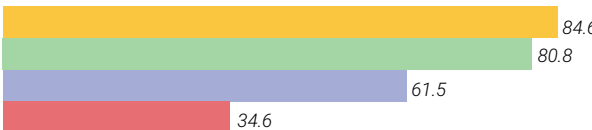
Below 25 years



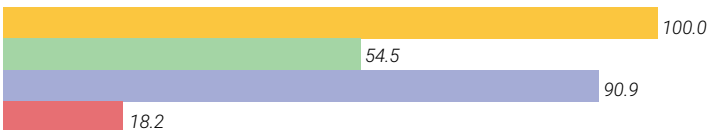
25-35 years



35-45 years

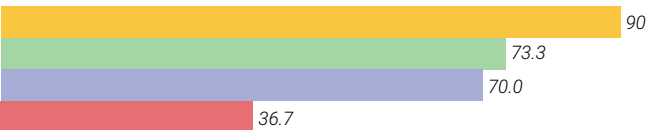


above 45 years



Across education levels (Users–percent)

Graduates



Non-graduates



Education level, although high is Karnataka, barely affects technology adoption.

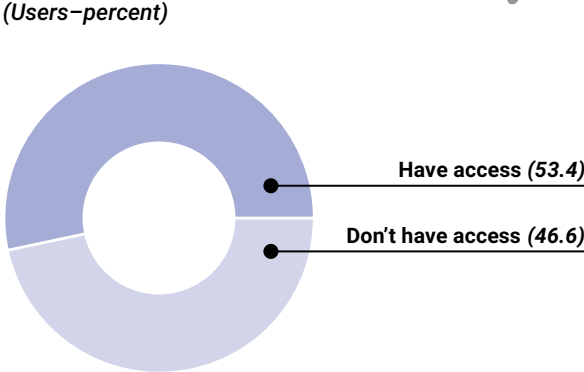
Online Shopping as primary function is the lowest at the extreme age groups due to fixed budgets and comfort factors with an offline shopping model respectively.

Social media as a primary function is the highest for users between the age of 35-45 (the technology adopters of Karnataka)

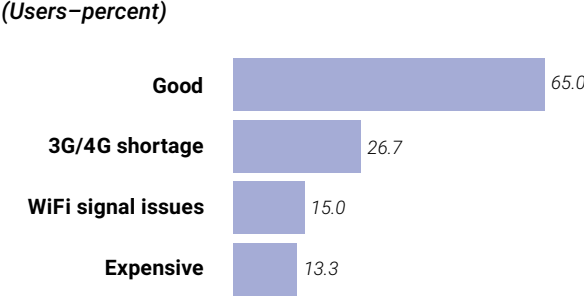
Entertainment as a primary function falls for users between the ages of 25-45 (The working class)

Network and connectivity

WiFi accessibility



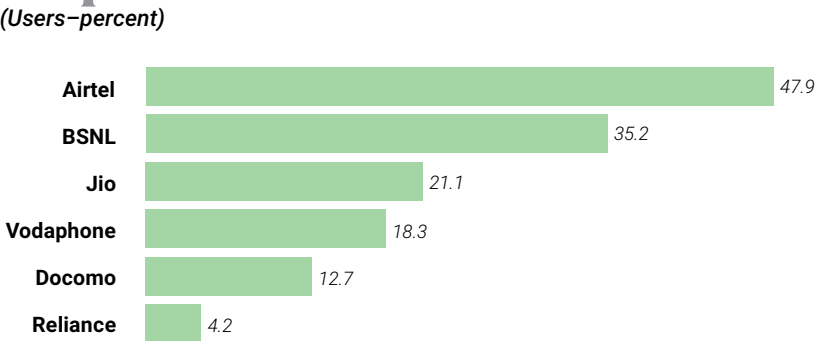
Experience with internet



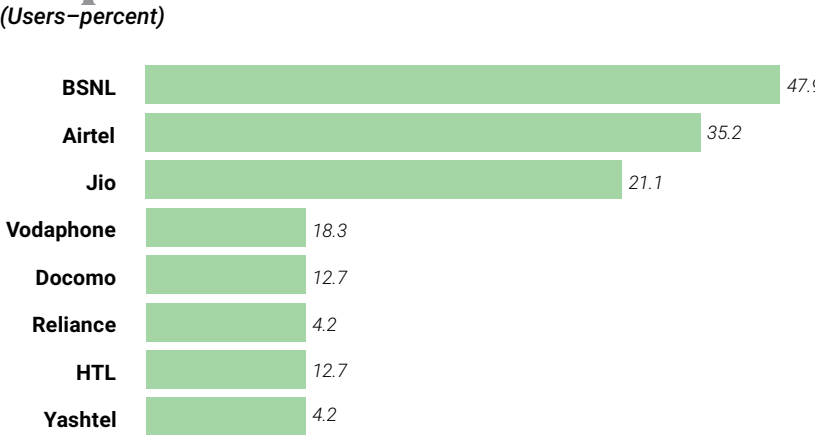
66.6% of Jio users are satisfied with the internet experience compared to the, 36.6% of Airtel users, 35.7% of BSNL users and 35% of Vodafone users.

33.3% of Jio users face a 3G/4G shortage compared to 29.3% of Airtel users, 42.9% of BSNL users and 25% of Vodafone users

Popular telecom networks

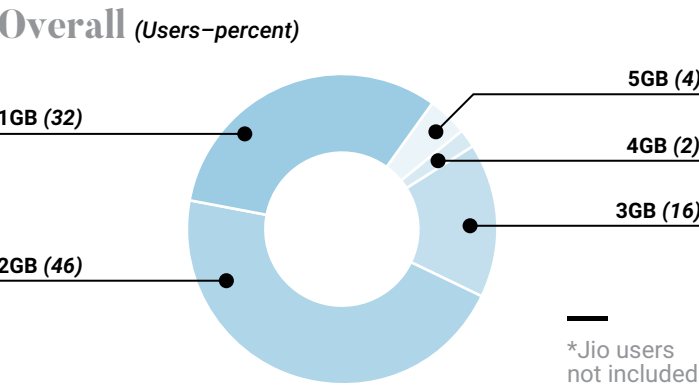


Popular WiFi* networks

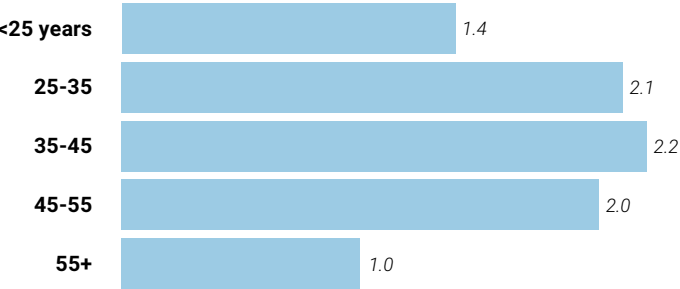


*through broadband or 4G router

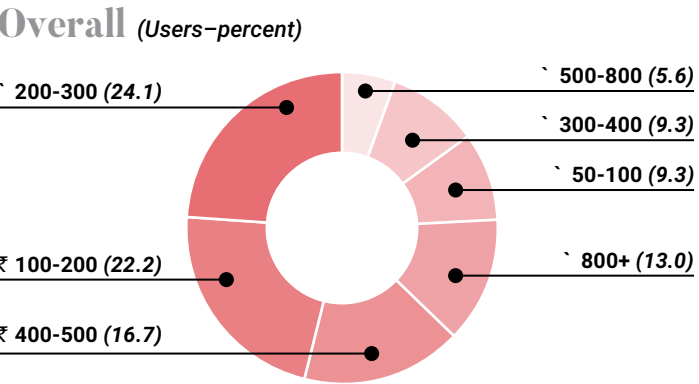
Data consumption per month*



Average consumption by age (GB)

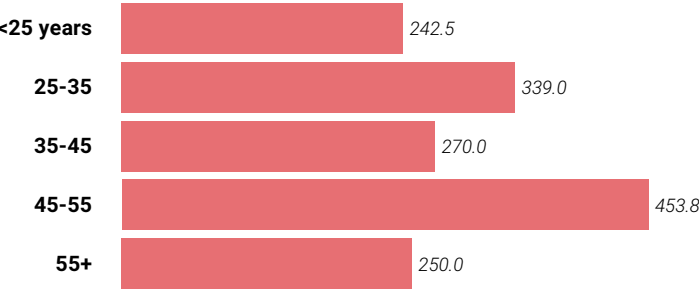


Amount spent on data per month



On an average, smartphone users spend INR 296.2/month on data.

Average spend by age (INR)

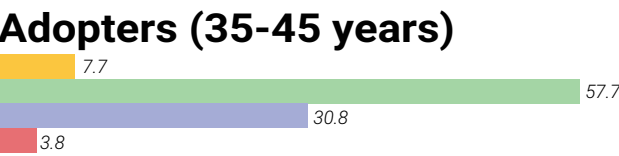
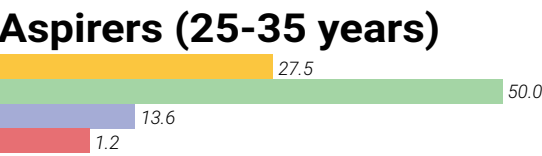
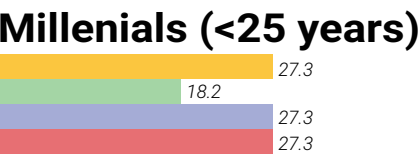
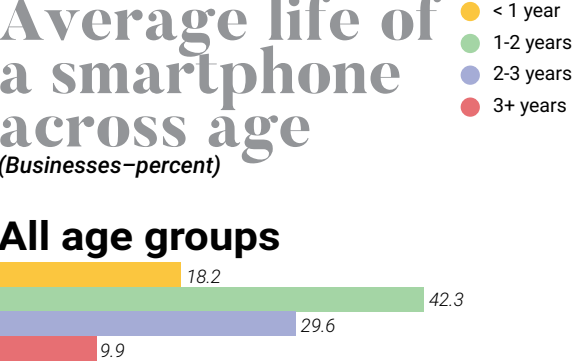


Smartphone users between the age of 45 and 55 spend an average of INR 453 on data (the highest among all age groups). A large proportion of the data is used on video consumption

Smartphone purchase behaviour

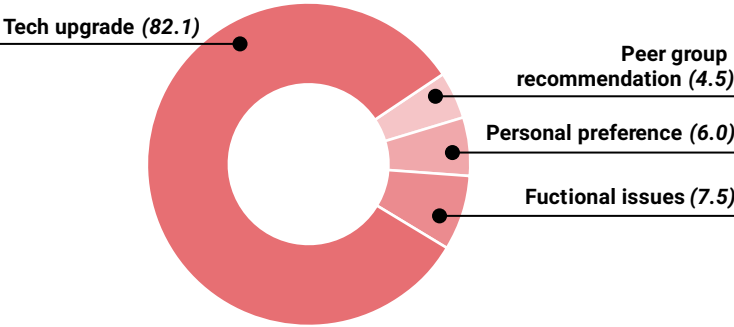
Average life of a smartphone across age

(Businesses–percent)



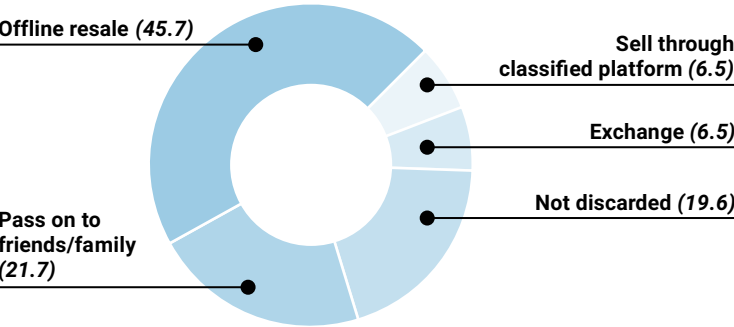
Reasons for purchasing a new smartphone

(Businesses–percent)



Methods of disposing old smartphones

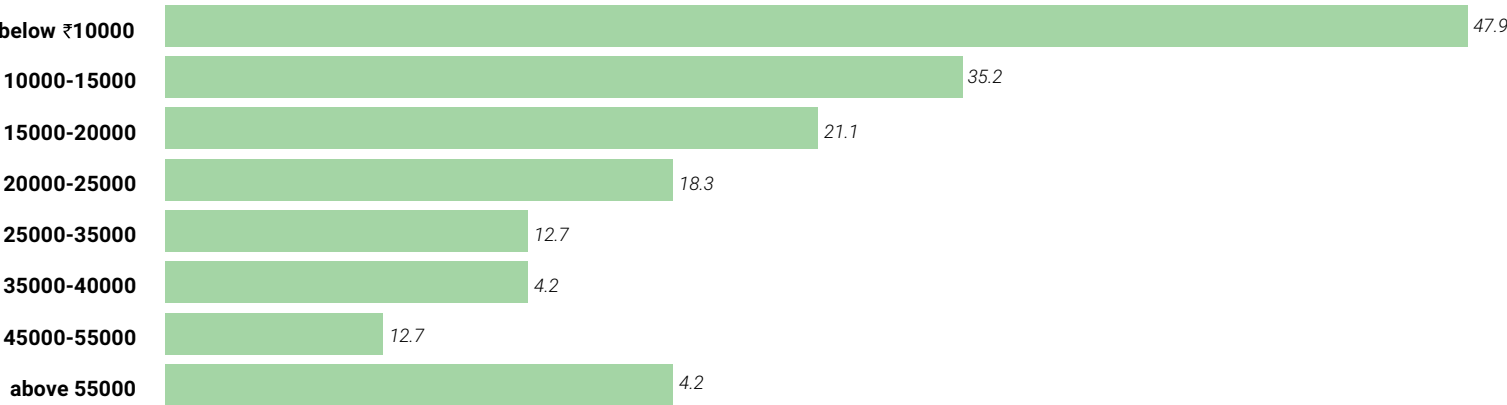
(Businesses–percent)



Amount users are willing to spend on a new model

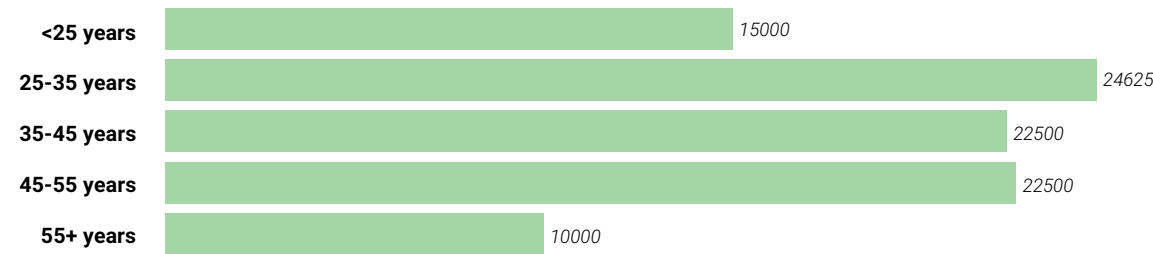
Overall

(Users–percent)



Average across age

(INR–percent)

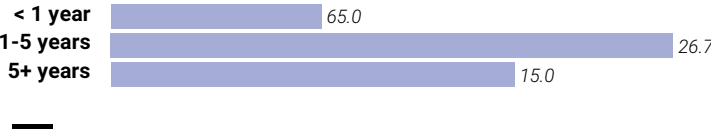


Smartphone users between the age of 25-35 are brand conscious and willing to spend a greater amount on a new model. Users between the age of 35-45, however, are slightly more price sensitive despite the fact that they adopt technology faster.

Experience with smartphones

Years of experience with smartphones

(Businesses–percent)



Highly engaged smartphone users have around four years of experience using smartphones. On the other hand, users who spend less than an hour on their smartphones have used them for less than a year. With time, smartphone usage increases exponentially.

Highly engaged users are willing to spend an average of INR 27,500 on a newer model. On the other hand, those who spend less than an hour are only willing to spend under INR 10,000 on a newer model.

25-35 year olds comprise of the most highly-engaged smartphone users. They are, however, a very price sensitive group who are willing to spend on new models only if the features of the smartphone are satisfactory. The aspirers, however, less digitally engaged are brand conscious and are willing to spend a higher amount on smartphones.

Smartphone users who spend less than an hour on apps prefer the Airtel network. On

the other hand, smartphone users who spend over seven hours on apps use the Jio network i.e. they do not pay for data. Data price is elastic to smartphone usage.

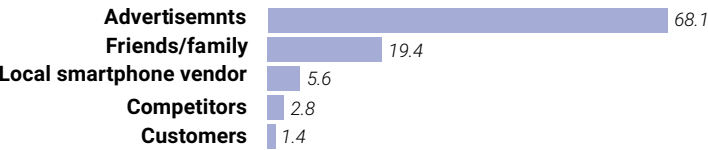
Smartphone users who have been using devices for over 10 years are willing to spend upwards of INR 55,000 on a new model. On the other hand, smartphone users who have used a device for less than a year are only willing to spend anywhere between INR 25,000 and INR 35,000 on a new model.

Newer smartphone users are leveraging the advantages of technology to promote their business faster than those who have been using smartphones for a longer period.

A smartphone user who is willing to spend less than INR 15,000 on a new model uses his smartphone for an average of 2-3 years. On the other hand, smartphone users with a higher marginal propensity to spend use their smartphones for an average of 1-2 years.

Source of information for internet on smartphones

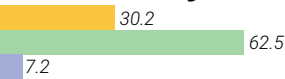
Overall (Users–percent)



Across age(Users–percent)

Advertisements Friends/family Local smartphone vendor

Below 25 years



25-35 years



35-45 years



45-55 years



—

Those who were introduced to smartphones through “Competitors” were mostly SMBs.

Mobile store owners are generally more tech-savvy than the rest of the population. They introduced people to smartphones and also end up onboarding their customers onto various apps; fundamentally becoming the “Local Smartphone /IT vendor.

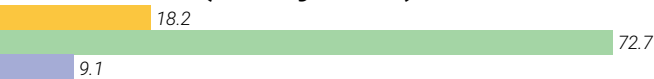
Years of experience with internet on smartphones

Overall (Users–percent)



Across age (Users–percent)

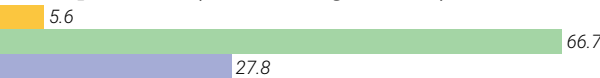
Millenials (<25 years)



Aspirers (25-35 years)



Adopters (35-45 years)



Middle aged (45-55 years)



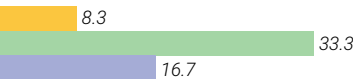
An typical smartphone user has spent an average of 4.7 years with a smartphone and an average of 3.4 years with internet on his/her smartphone.

Across industry (Businesses–percent)

Manufacturing sector



Wholesale sector



Retail sector



Service sector



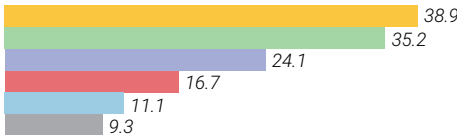
Messaging

Purpose of messaging apps

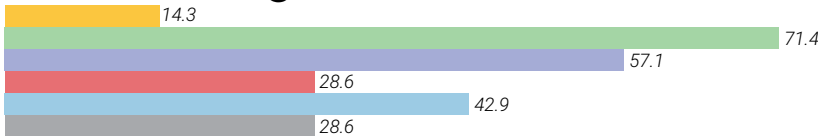
(Businesses-percent)

- Personal use
- Customer interaction
- Supplier interaction
- Sharing images
- Invoice processing
- Calling

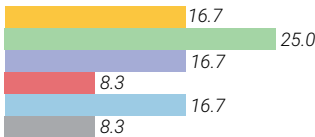
All sectors



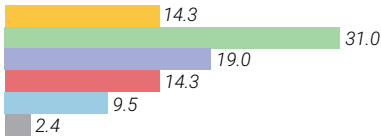
Manufacturing sector



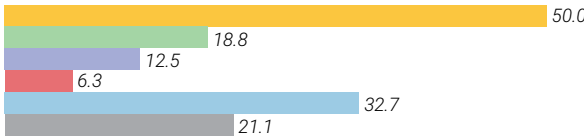
Wholesale sector



Retail sector

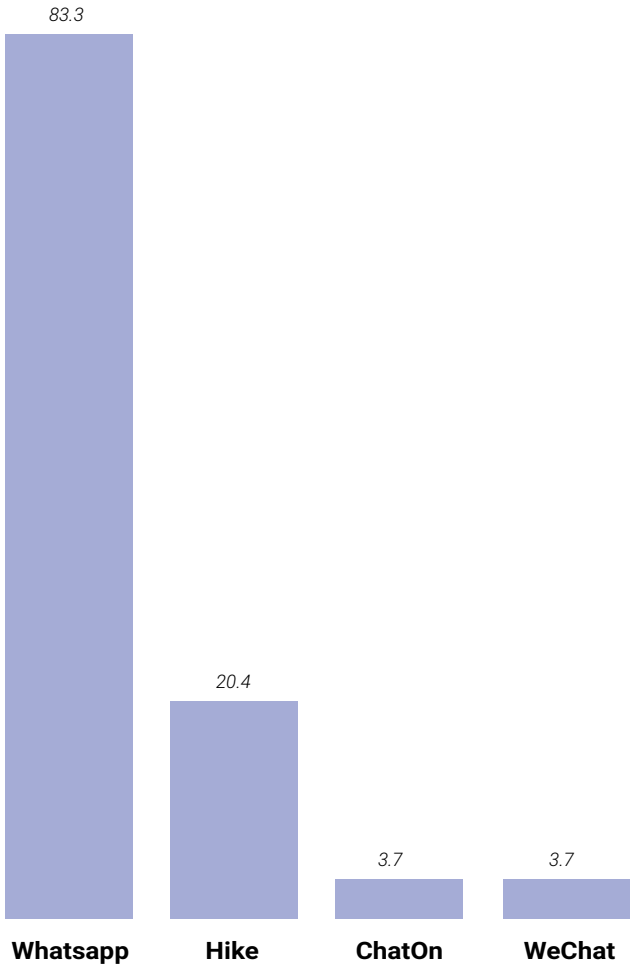


Service sector



Popular messaging apps

(Businesses-percent)



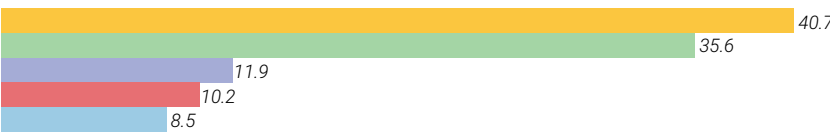
Social media

Purpose of social media

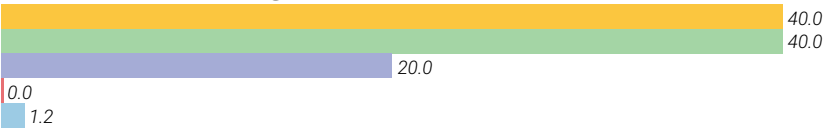
(Businesses-percent)

- Customer interaction
- Personal use
- Product display
- Supplier interaction
- brand visibility

All sectors



Manufacturing sector



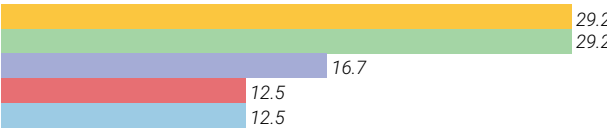
Wholesale sector



Retail sector



Service sector



Popular social media apps

(Businesses-percent)



Web presence

Presence

- Don't Have website
- In process
- Have website

Overall *(Businesses-percent)*



Across industry *(Businesses-percent)*

Manufacturing sector



Wholesale sector



Retail sector



Service sector

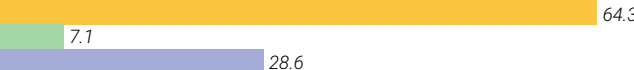


80% of B2C businesses have a website, compared to 20% of B2B businesses

A majority of retailers and service providers, although willing to spend on a website to achieve local discovery, currently do not have one. On the other hand, manufacturers and wholesalers, have a wide market reach and understand the importance of a digital presence.

Across market spread *(Businesses-percent)*

Hyperlocal



Citywide



Pan India



Overseas

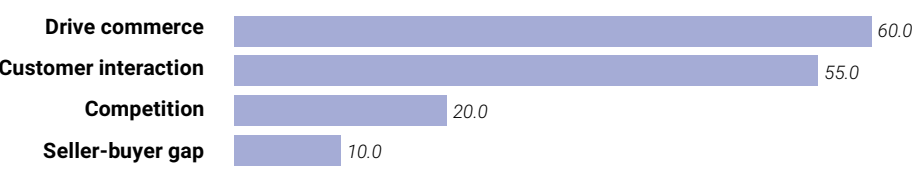


Although businesses with a hyper local and city wide market spread do not have a website currently, they place huge importance on local online discovery and are willing to spend high amounts on a business website.

Businesses with a Pan India/Overseas presence are willing to spend on websites due to a wider customer base

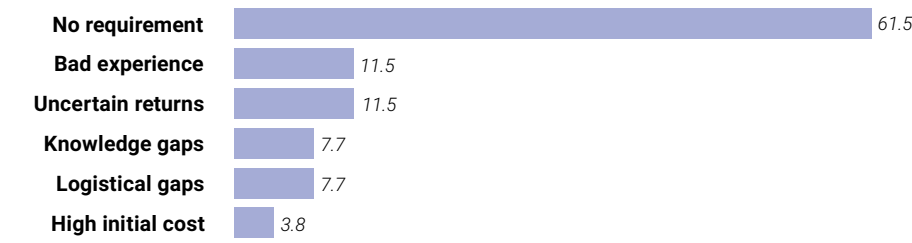
Reasons for website creation

(Businesses-percent)



Reasons for not shifting online

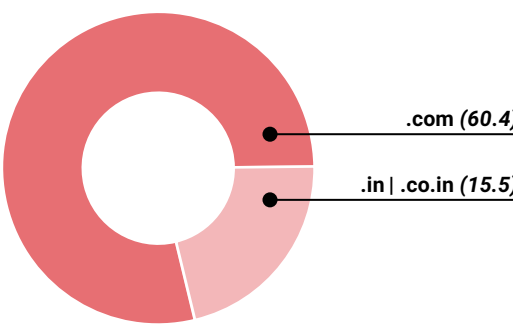
(Businesses-percent)



Domain name

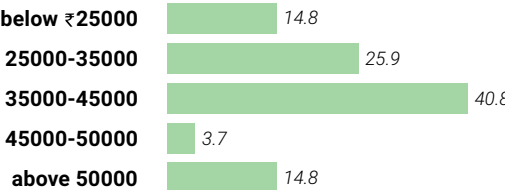
(Businesses-percent)

A slight proportion of business owners misunderstand domain names like askme.com, indiamart.com to be their own websites



Amount an SMB is willing to spend on its website

(Businesses-percent)



Benefits of having an online business

- 1 The customer acquisition process is more efficient.
- 2 Building the brand.
- 3 Improvements in production techniques through Google Search.
- 4 Shorter business cycle.
- 5 Visibility of the business increases.
- 6 Payment process is simpler.
- 7 Staff requirements have reduced.
- 8 SMBs are better informed about their market.

Challenges with an online business

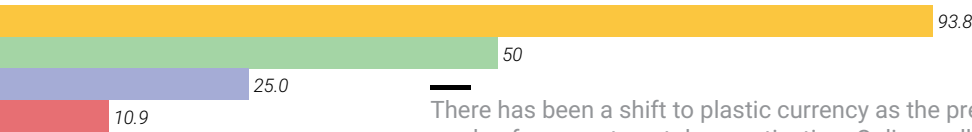
- 1 Connecting with offline customers (who are a high proportion of their total customers).
- 2 High costs & logistical issues.
- 3 Spam calls after listing the business on aggregator sites.
- 4 Updating and maintenance of websites. Power cuts.
- 5 Responding to a high volume of reviews
- 6 on social media platforms.

Payment

Prefered method of payment

Cash Net banking
Plastic currency Online wallet

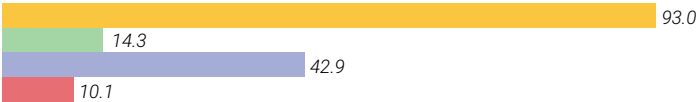
Overall (Users-percent)



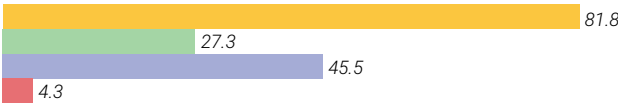
There has been a shift to plastic currency as the preferred mode of payment post demonetization. Online wallet preference is low as people trust netbanking via their banking apps more.

Across industry (Businesses-percent)

Manufacturing sector



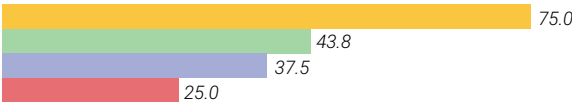
Wholesale sector



Retail sector



Service sector



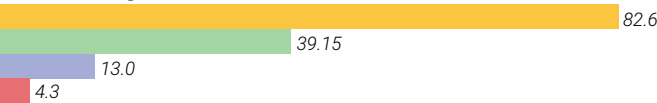
Although a bulk of transactions still happen in cash, there has been a massive shift to digital payments post demonetization. An exception to this shift is S.K Jairaj who was not affected by demonetization as he has been making online payments since 2009.

Across age groups (Users-percent)

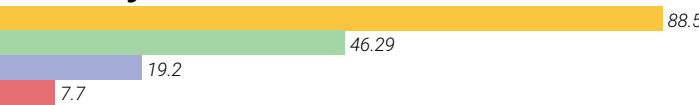
Below 25 years



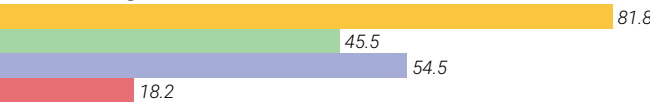
25-35 years



35-45 years



45-55 years

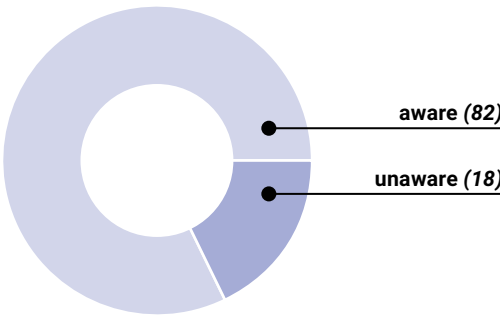


Over 55 years



Online wallet awareness

(Users-percent)



Medium of mobile data recgarge

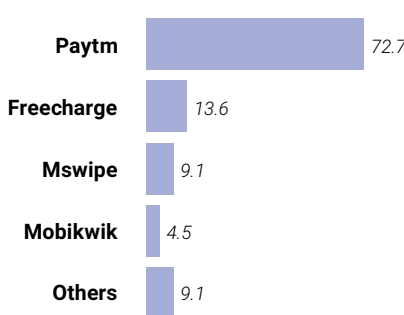
(Users-percent)

offline (76.3)

online (23.7)

Popular online wallets

(Businesses-percent)



Of the people who use online wallets.

Issues with online payments

Consumer Perspective

- Digital literacy issues.
- Trust issues with online wallets. Customers tend to trust their bank apps more than digital wallets.
- Customers have long-standing comfort with offline payments.
- Consumers do not have bank accounts.

Seller Perspective

- Payments by credit and debit cards adds an extra percentage to the payment amount. This charge, being lower on apps are preferred to net banking.
- POS machines are costly and should be provided free of cost by the government.

Demonetization and Its Impact

- On an average, cash in hand before demonetization was INR 7,254.
- 84.7% of people said that they had difficulties using the new INR 2,000 rupee note, compared to 15.2% who did not face such difficulties.
- 81.8% of the people believe that the demonetization of the INR 500 and INR 1000 rupee notes was a positive act whereas 12.7% were neutral and 5.5% believe that it was a negative act.
- 12.2% people claimed that the ATM queues were too long compared to 87.8% who said that there were no queues and the cash dispensing process was smooth. However, a good proportion of people (especially in villages) claim that the ratio of ATM to population density was very low. Some claim that the ATMs have not been functional since 8th November 2016. Cooperation banks, however have managed the situation very efficiently.
- 83% people believe that an online business shift would have majorly reduced the negative effects of demonetization.

Difficulties faced post demonetization:

- Major business dips
- Delays in wages (for daily wage labourers who received their wages in cash)
- No knowledge about fund withdrawals
- People believed that they lost the right to access their own funds
- Time costs
- Arrangement of POS machines
- Hospitals/gas stations only take cash
- Authority participation is poor

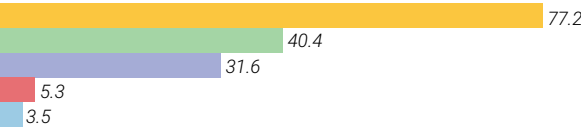
Marketing

Popular offline tools

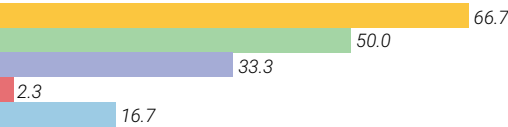
(Businesses –percent)

- Word of mouth
- Pamphlets
- Newspapers
- Radio
- Television

All sectors



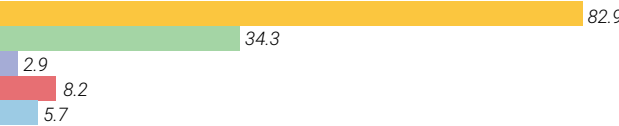
Manufacturing sector



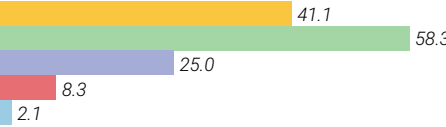
Wholesale sector



Retail sector



Service sector



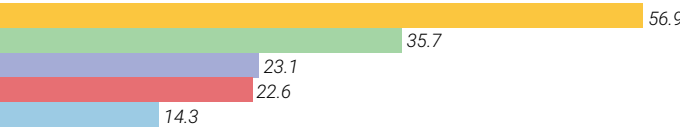
B2B businesses use websites and e-commerce sites as online marketing tools. On the other hand, B2C businesses prefer social media, websites and aggregator sites to promote their business online

Popular online tools

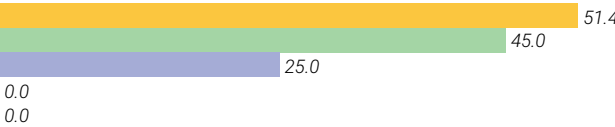
(Businesses –percent)

- Google map integration
- Website
- Aggregator sites
- Social media
- E-commerce

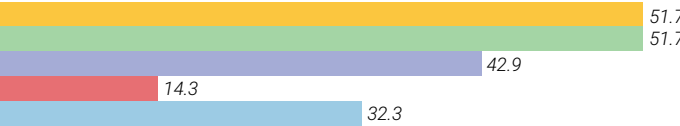
All sectors



Manufacturing sector



Wholesale sector



Retail sector



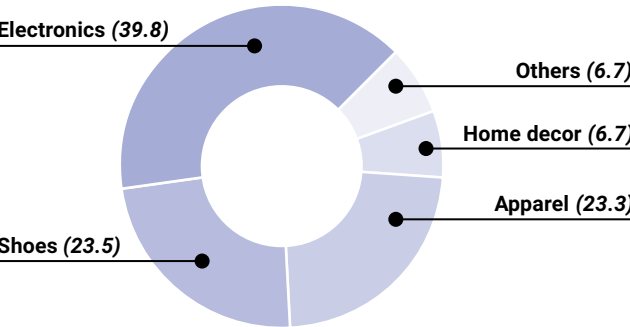
Service sector



E-commerce

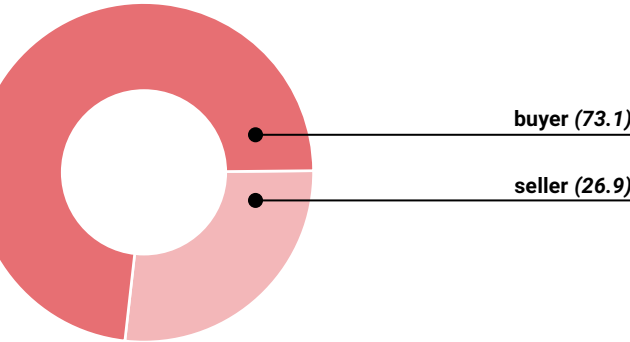
Popular products bought online

(Buyers –percent)



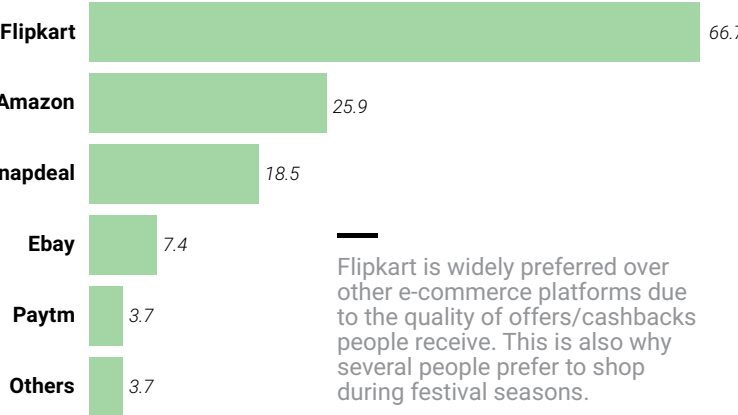
Type of e-commerce account

(Users –percent)



Popular e-commerce apps

(Users –percent)



Flipkart is widely preferred over other e-commerce platforms due to the quality of offers/cashbacks people receive. This is also why several people prefer to shop during festival seasons.

On an average, people spend INR 2,029 every time they shop online.

The frequency of their purchases lies between 1-2 times per month or as and when required.

In the Shimoga flower market, several online purchases take place in bulk under a single order. The person usually placing the order is the local IT vendor who has the know-how to operate a smartphone.

Issues with Online Shopping

- 1 Courier services not available in the area.
- 2 Courier services are not prompt.
- 3 Exchange delays by lags of as much as 1-2 months.
- 4 Problems with products.

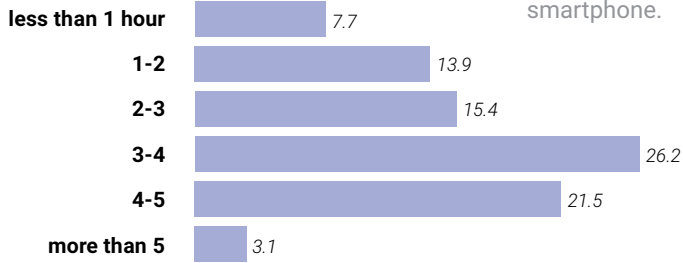
Most online shoppers have no issues with their experience.

Almost 71.4% of online shoppers say that the customer service quality is above average. Around 28.6% believe that the customer service quality is average.

Apps

Hours spend per day on apps

(Users–percent)



On an average users spend 3.1 hours per day using apps on their smartphone.

Average number of apps per smarphone across age groups

(Number of apps)



An agerage user has 18 apps of his/her smartphone

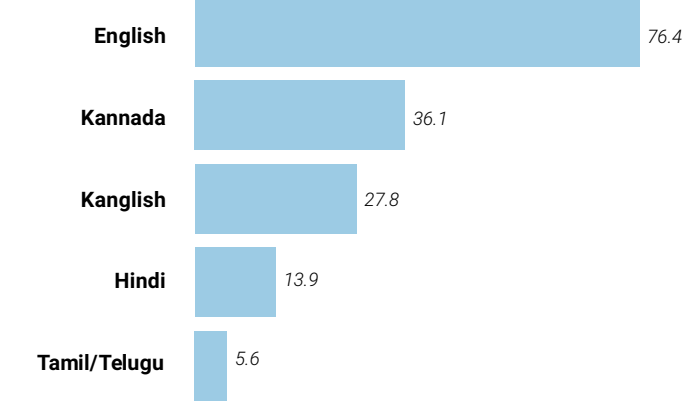
Popular travel apps

(Users–percent)



Prefered language for typing

(Users–percent)



People interviewed in Karnataka prefer English on their smartphones. However, contrary to popular opinion, they were also comfortable typing in Kannada and often used a mix of Kannada and English to communicate on their smartphones.

Instead of using the Kannada keyboard, a huge proportion of smartphone users prefer to use translator apps such as “ಕ” (the letter k in Kannada) to ease the typing process and cut down on time. This is as the Kannada script is hard to type making it a time-consuming process.

Certain apps are downloaded in Kannada that is the preferred language. If not Kannada, then English comes as the second preferred language.

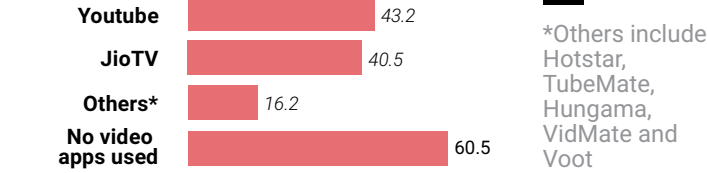
In case of communication gaps or lags, people tend to prefer voice notes and calls.

In some cases, the entire OS is available in different languages but the general user is not aware of this fact. Mobile store operators often help their customers shift the OS to their preferred language.

A survey with mobile store operators showed us that feature phone users were usually the ones asking for a change in their OS language to Kannada.

Popular video apps

(Users–percent)



*Others include Hotstar, TubeMate, Hungama, VidMate and Voot

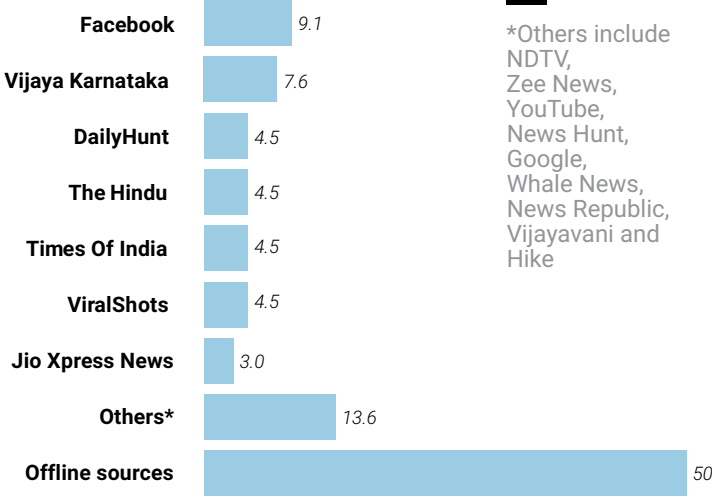
Popular healthcare apps

(Users–percent)



Popular news apps

(Users–percent)



*Others include NDTV, Zee News, YouTube, News Hunt, Google, Whale News, News Republic, Vijayavani and Hike

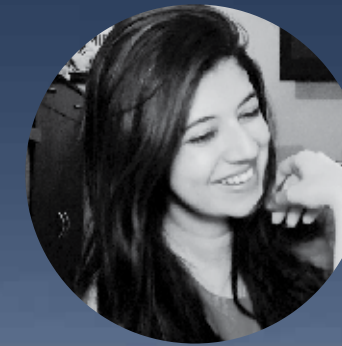
#deshruction
#indiawontwait

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Travellers



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