

## Organizing the Unorganized – A case study

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### **Abstract :**

*Finding a household worker is nothing short of a herculean task. Especially in today's world, where everyone is living life in the fast lane. City dwellers, especially newly settled ones, often have trouble finding household workers. This app, essentially provides an online platform which bridges the gap between household workers. It will enable the consumers to easily hire help whilst providing employment opportunities to countless workers. Consumers will specify their needs and will be accordingly shown all the available workers. This will create employment opportunities and lead to the social empowerment of domestic workers, easing the lives of households at the same time.*

**Keywords** - *Unorganized sector, online platform, household workers, social empowerment*

### **I. INTRODUCTION**

According to a report by Indian Labor Market (ILO) and NSSO, it was found that 90% of the employment in the agriculture sector and 70% of the employment in non-agriculture sector lies under unorganized sector.<sup>1</sup> About 90% of the unorganized workforce outside agriculture and 50% of the GDP is accounted for by this informal sector.<sup>2</sup> The unorganized sector plays an integral role in the economy particularly in employment, poverty alleviation and its contribution to the national domestic product, savings, and capital formation.<sup>3</sup> This governs the largest share of national income, service savings, investment, taxes, manufacturing activities, FOREX exchange, etc.<sup>4</sup> Thus, bringing some kind of structure to the unorganized economy would largely help everyone. That is what we are trying to do by using the greatest gift of the 21st century, that is, technology.

The motto that we have worked towards in this project is to enable better and respectful job opportunities for the unskilled workforce.

### **II. LITERATURE REVIEW**

The unorganized sector is a major player in the Indian economy. It generates more than half of the country's GDP and provides employment to a vast majority of India's workforce. According to a survey carried out by the National Sample Survey Organization (NSSO) in 2009, the total employment of the country was 46.5 crores, of which only 2.8 crore belonged to the organized sector.<sup>2</sup> It makes up about 93% of the workforce of India. It comprises of mainly small-scale industries and enterprises that are not registered with the government. In the rural areas it includes landless agricultural laborers, fishermen, small scale industry workers, casual workers, construction workers, trade and transport workers, shopkeepers, vendors, weavers, artisans, blacksmiths, carpenters, garment makers, sweepers, rag pickers, etc.<sup>3</sup> There are nearly 50 million domestic workers in India, a large majority of which are females.

In the Indian economy, several studies have focused their analysis on its impact on Indian economy. Kulshreshtha and Singh (1998) examined the contribution of unorganized segment and also the share of its different sub-sectors to NDP from 1980-81 to 1994-95. They found that though the contribution of the unorganized segment to the total NDP has been declining progressively over time, it accounts for a large share (over 60%) to the 3 consumer goods industries.

In the urban areas, household workers make up a large chunk of the unorganized sector and play a pivotal role in the day to day lives of millions of people. Cities are dotted with high rises where residents are always looking to hire maids.

There is a major lack, as far as online platforms connecting the unorganized workers are concerned.

We prepared a prototype application using Java. We chose Java because of its widespread applications and versatility. Thanks to its platform independence, Java can be used to create complete applications that can run on a single computer or be distributed across servers and clients in a network.

As a result, it can easily be used build mobile applications or run on desktop applications that use different operating systems and servers, such as Linux or Windows. It can also be used to connect databases using JDBC (Java Database Connectivity). Java can be used for a wide plethora of applications including android apps, web apps and software tools.

The final version is being developed using Android Studio. Ever since the inception of smart-phones, their numbers have grown exponentially. Android smart-phones in particular have seen a particularly large boost in their numbers in the last five years thanks to their affordability and ease of access. India alone has over 337 million smart-phone users. This number is expected to rise to 409 million by 2019. A vast majority of the people living in cities and urban areas own smart-phones and have access to the internet. So an Android app would provide consumers with a swift, reliable and convenient method to hire domestic help whilst providing employment to the workers.

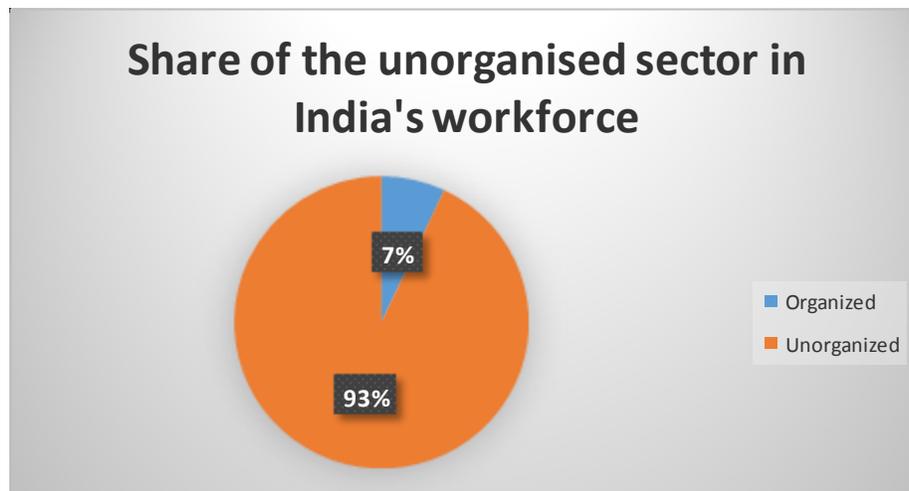


Fig 1 Share of the unorganised sector in India's workforce.

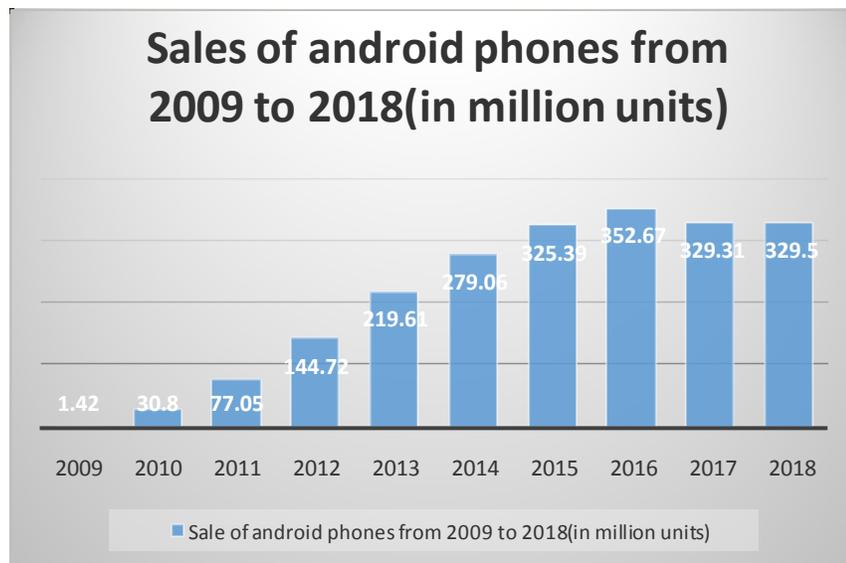


Fig 2 Sales of android phones from 2009 to 2018(in million units)

### III. METHODOLOGY

#### PHASE-I

To make the process more efficient, we have divided the methodology of PHASE I into the following steps:

##### STEP I

Research and analyze the unorganized sector, problems faced by various people working in various facets of the unorganized sector. Determine the final problem statement to develop a solution towards.

##### STEP II

Scrutinize the feasibility of the platform we are planning to develop. Examine the challenges faced by households while trying to find someone for household work.

##### STEP III

Work out the best possible way of implementing the platform. A WebApp, a standalone PC app, or a Android and iOS based cross platform app. Discuss the merits of each and finalize best way of implementation.

##### STEP IV

Work on the logic of the core functionality of the platform. Develop algorithm and flowcharts.

##### STEP V

Turn the logic developed into an actual command-line application that will demonstrate the core functionality of the application. Preferably, the code would be in java to facilitate seamless conversion into an android app.

##### STEP VI

Develop the basic user interface of the application using XML.

#### **STEP VII**

Implement the core command line java code in a basic android app that would be the prototype for the final application. Test the prototype using various testing methods, and determine the path ahead.

#### **PHASE-II**

##### **A. Plan of action -**

To make the process more efficient, we have divided the plan of action into steps.

##### **STEP I**

Come up a basic code for the core functionality of the app.

##### **STEP II**

Develop and maintain a real time database using Firebase Native.

##### **STEP III**

Develop user authentication, and user registration based on mobile number and email.

##### **STEP IV**

Develop the User Interface for the app using React Native.

##### **STEP V**

Implement geo-location based targeting and test it.

##### **STEP VI**

Test whether the app works on scale. Modify changes to make it work on a scale.

In order to establish the practicality of this application, we conducted surveys in various parts of the city. We covered areas like Magarpatta City, Hinjewadi, Amanora Park Town, Koregaon Park and Nanded city. We chose these areas because they are close to the major IT hubs of the city and are home to thousands of working professionals. These are also major employments hotspots as far as domestic workers and house maids are concerned. The goal of this survey was to try to better understand the market and the customers.

We prepared a questionnaire and asked them about the various aspects concerned with their day to day lives, the employment opportunities in their areas, their current means of finding employment, the security of their current employment, their technological literacy and about how an app could be effectively integrated into their lives.

Based on this data, we have come to the following conclusions :-

- 1) 80-85% Workers own mobile phones of which 50% are android.
- 2) 15-20% of them can properly operate their phones and can download apps from the appstore.
- 3) As far as their area of occupation is concerned,
- 4) 20-25% were involved in cooking.
- 5) 85-90% in washing utensils.
- 6) 75-80% in cleaning services.
- 7) 60-65% in washing clothes.
- 8) 10-15% worked as baby sitters.

Most of the workers rely on recommendations from their fellow workers to find new work. It is essentially their primary means of finding employment. They sometimes also directly approach people living in their localities and in local housing societies , seeking employment. Job security is practically non existent in their line of work. Especially in the IT hubs of the city where people are constantly transferred. There is abundance of employment opportunities, but competition is rampant. Most of them however, have managed to find steady work in some of the other parts of the city. We asked them if an app would benefit them and ease their lives in anyway. We received responses along three major trains of thought.

- 1) They truly believed that the app had potential and would ease the process of finding employment.
- 2) They were quite uncertain about the app and weren't very convinced if it would benefit them in anyway. They were quite happy to leave things be. Most of them weren't very confident about using an app owing to their lack of literacy. However, about 60-65% of them expressed some interest in using the app if they were taught how to.
- 3) They had quite neutral responses. They were happy with the current state of things, but would definitely consider upgrading to the if it proved to be a better method of finding employment.

## **B. Tools used -**

### **1. Android Studio**

Android Studio SDK (Software Development Kit) would be used as the Integrated Development Environment (IDE) for the coding of the app. Android Studio is the official SDK (Software Development Kit) by Google itself. Also, Android Studio uses the quick growing Gradle build system that is so integrated, and Gradle is really auseful tool.

### **2. Firebase**

For user authentication and registration, for maintaining database, and eventually for implementing real time chat functionality. Firebase is a BaaS (Backend as a service), which provides RTDB (real time database) services for mobile apps and web developers. It was established in 2011 and was purchased by Google in 2015. Firebase NoSQL cloud provides a database for real-time applications as a service. This service provides an API for developers, lets you synchronize data and store it in the Firebase cloud. Except traditional authentication scheme (login/email/password), 100% Firebase powered app supports simplified login process through different networks. In this situation there is still no need for writing any server code.

### 3. React Native Framework

For developing the User Interface (UI) of the app and eventually making the app cross platform. React native has the major drawback covered i.e. developing apps for two different platforms without have to start coding from scratch. It allows developers to use the same code for developing apps on multiple platforms as well. React is known to be effective in providing agility, speed and an overall good user experience. It uses the ReactJS framework to provide native experience to its users. React Native is more focused on user interface unlike AngularJs and MeteroJS. It gives users a highly responsive interface with the help of asynchronous Javascript interactions between React Native and the Native environment of the device. This in turn increases the app's load time and keeps it running smoothly without interruptions.

### IV. FUTURE SCOPE

Once the basic functionality of the app is implemented, we are planning to work on the UI. We would be implementing the Google Material Design to enhance the user experience. The app would be made cross platform once a working prototype for Android is ready. As we have chosen tools that facilitate cross platform from the start itself, the transition would be easy. We are also planning to delve into the business side of the app once its development is complete. The business feasibility of the app has already been established. But, still, to dot the I's and cross the T's, we will conduct a market research among the domestic workers, especially targeting the maids, as a start. Based on the feedback, we will modify and develop the app more so as to enhance the experience. Then, after consulting experts, we will create a pricing strategy that would be convenient for all.

### V. CONCLUSION

Unorganized workers make up the bulk of India's workforce. In urban areas and cities, household workers like maids and cooks account for a large chunk as far as unorganized workers are concerned and play an integral role in the lives of millions of people everyday. A vast majority of them face several problems like lack of social security, lack of employment opportunities, lack of minimum wages. There is also a huge void as far as labour laws are concerned, which only adds more fuel to the fire. We seek to use technology to tackle this problem by creating an online platform which will provide them with employment opportunities and social empowerment. This will also give consumers a fast and convenient way to hire household workers.

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