5.1 Our new study strategy

After doing preliminary investigations with the Men on the Side of the road (MSR) in Cape Town, South Africa, we came to a realization that we may need to approach our problem in a slightly different way from our earlier anticipation. We opted to solve our e-commuting problem piecemeal. Our data findings seem to indicate that the major problem is perceived unfairness by the placement officers at the ground. It was reported that placement officers give preferences to their friends and in some cases countrymen. On a critical look, we hypothesize that the starting point will be to propose a system that will reduce or eliminate such unfairness. Thereafter if we are able to eliminate or reduce unfair job allocation, then our initial problem may become feasible. We are therefore proposing an electronic allocation system that can be used to complement the manual allocation system.

![Figure 1: Selection criteria model](image_url)

The proposed system is informed by our findings. We categorize workers into two groups, the skilled and non-skilled workers. It was clear that skilled and more literate workers are more advantaged compared to their non-skilled and mainly illiterate counterparts. Other factors that came into play when deciding the kind of solution to offer are workers performance and their current allocation criteria. The following is our allocation process that will act as a basis for our proposed system:
Proposed allocation criteria

For every request to allocate, the best suitable worker will be chosen based on our proposed selection model as shown in figure 1. Our selection algorithm has four steps, one, workers are grouped as either skilled or non-skilled. The idea here is to eliminate a situation where skilled workers take up general or non-skilled workers being placed for jobs that require some skills. The second step is grouping of workers according to their skills category. This step is only applicable to skilled workers. At the third step, all workers, both skilled and non skilled will undergo a reference check, a kind of vetting based on their performance. Reference checks will mainly rely on comments from previous employers and relevant training documents. Although this may be biased against people who have limited skills, it is hoped that once in a while workers with low reference ranking will climb up the ladder as skilled workers get really quickly placed. This will allow second persons to be placed and hence have a chance to improve their reference. From our findings, it emerged that skilled people are likely to be placed as compared to non-skilled ones. At this point, we expect that all workers competing will be either skilled or non-skilled but not a mix of them. Finally all those who manage to go through to the (Last out last in) LOLI step will be selected based on who was the latest to be placed. Figure 2 shows a flowchart representation of the steps.

Our allocation criterion is not without constraints which include the fact that all workers must be registered in advance and that they must be categorized as either skilled or non-skilled. A worker may be allowed to register as having more than one job skills, which will not give them any advantage over the others as the LOLI criterion is the last to be applied. He will however be advantaged in overall job allocation, which is naturally the case.
How the allocation will work

Placement may be done automatically by the system and send to the coordinator’s mobile phone. Alternatively, the coordinator may query the database every morning and gets a list of suitable candidates for both skilled and non skilled selected according to the allocation criterion. For every job that needs to be allocated, the best, according to the proposed allocation policy will be picked.

Since workers don’t always have airtime, one of the ways of confirming their position is by checking with the coordinators phone.

Why this kind of solution

By providing a piecemeal solution to MSR, we are not in any way saying that our initial conceptual design has failed, but because our findings identified a more fundamental problem of unfair allocation of jobs. We are therefore first proposing a system that will try and solve the allocation problem. It was also noted that the current criterion used by MSR is against non-skilled workers as the skilled workers can do both general and skills work. By introducing the grouping of workers into skilled and non-skilled in the selection policy, we are trying to guard against unfairness against non skilled workers.

As indicated, our main objective is to see a system that will allow people to wait from wherever they are. We are still working on it. However, we realized that with unfairness perception, we can only do very little if not nothing and hence our proposed solution. We hope that our solution will propel us to the next level where we will apply our original conceptual design.

Importance

- Placement by Men on the Side Road will only be to those who are registered with them. In our design, this is intentional rather than coincidental. We assume that many job seekers will put in more effort to try and register with MSR hence making the whole process more organized.
- Our next hypothesis is that workers will, hopefully after getting used to the system, be able to predict/know their chances of getting a job in a given day. Hopefully, predictions will be used to decide whether to wait from home or on the road side. This is our ultimate objective; can job seekers wait from anywhere? Can we do telesearching of jobs?
- Employers may be allowed to do their worker request in advance and also confirm allocation details by querying the database.
- The placement officer may also, if necessary publish allocations on a paper or big board at the road side

How our conceptual architecture changes:

In our initial conceptual architecture, we had a module that matches jobs with workers based on their CV’s. After analyzing our findings, it was clear that no such thing as a CV existed, instead there is reference check or worker evaluation. Since reference check is a factor in allocating jobs, we propose to use it in our job matching, now renamed job allocation. Similarly, the worker/employee database had worker’s CV, we have renamed it reference details, which will include qualifications that the worker may have attained.

According to our new model, the MSR coordinator will be categorized as a job seeker based on the side of the road (what is being referred to as MSR worker collection point). In fact the coordinator is the key job seeker. Consequently, we changed our architecture to reflect the coordinator as a job seeker on top of being a job allocator. To reduce unfairness, we propose a job allocation criteria described earlier and which will complement the coordinator.
The rest of the architecture remains unchanged. Figure 3 shows our updated conceptual architecture.