Skills Development in the Informal Economy: A Case Study from South India

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Majority of Indian workers are part of the so-called informal economy. Government of India aims to improve the education system for young Indians so that they may have better chances to enter the formal economy. Since it is a long way until the Indian economy will be able to absorb the large number of school leavers, it is also important to target workers in the informal economy and improve their living conditions. It is essential to understand how informal workers currently learn. This paper analyses these learning processes by means of a case study of a group of small-scale mechanics in two semi-urban regions in South India. The study is based on qualitative interviews with informal workers, and seeks to bring out the perspective of the mechanics themselves.

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Introduction

Despite strong economic growth of the Indian economy in recent years, the International Labor Organization (ILO) classifies 92 percent of employment in the Indian labor force of 480 million people as informal employment (ILO, 2015; Mitra, 2015). Work in the informal economy is typically characterized by a low degree of social protection and a non-application of labor legislation (ILO, 2013). In order to improve labor market outcomes in India, international organizations strongly advocate to improve not only the education system for young learners, but to also focus on skills development programs for informal workers (see, for example, World Bank, 2008). To be effective, it is evident that these training programs shall be relevant for both the informal workers and the labor market. We argue that much more fundamental research work is needed in the Indian context to understand the actual training needs of the informal workers.

In this paper, we follow the approach of the micro-perspective. We aim to gather considerably valuable information by addressing the research questions from

the perspective of informal workers, with due regard to their backgrounds and opinions. This shall be a useful and inevitable complement to the analysis of statistics and theoretical concepts in regard to the informal economy and skills development to set up effective programs. In the present case study, we attempt to complement statistics for the informal economy in Tamil Nadu that do exist (see, for example, National Skill Development Corporation [NSDC] 2012) with our research insights.

Hoerner (2000) argues that researchers shall first attempt to understand the cultural and historical contexts before suggesting improvements. This is particularly relevant in the Indian context and the Indian informal economy, which is characterized by a large degree of heterogeneity. In our application of Hoerner's concept, we evaluate education levels, local traditions, work behaviors and general attitudes of the researched group as the basis to understand how they actually learn.

Specifically, we analyze self-employed small-scale mechanics in two semi-urban regions in Tamil Nadu, namely Thanjavur and Vellore. An in-depth case study based on qualitative interviews with informally employed mechanics is the basic data for our analysis. Our questions of interest are: How do informal small-scale mechanics acquire their skills? What skill set do they possess? What relevance do different forms of learning have for them? What problems do they face in receiving better learning outcomes? Which are the existing structures to improve the skills for them?

The general approach of the research corresponds to a study of Pilz, Uma and Venkatram (2015), in which the authors examine learning patterns of street food vendors in two Indian cities. With regard to learning patterns of mechanics, a comprehensive study of Barber (2004) exists, in which the author made extensive use of observations in a workshop in North India. Also, Sodhi (2014) analyzed the situation of 100 motor mechanics in Ludhiana-Punjab. All three studies found a certain amount of work based learning, mostly informal learning and the formation of tacit knowledge and competences (see for details below). However, we find studies on the informal economy from the informal workers' perspectives are limited to a small number of research projects. Therefore more empirical data is needed to fill the research gap and to generate more reliable empirical data. The present study seeks to provide complementary perspectives to develop a comprehensive understanding of skill development and learning in the informal economy in India. For a good overview of the informal economy in India, we refer the readers to the studies of the World Bank (2008) and Chen and Doane (2008). For statistical figures of the informal economy in Tamil Nadu, the NSDC (2012) provides detailed information about socioeconomic factors for each district.

Definition of Formal, Non-Formal & Informal Learning

In order to build on extant theory that explains characteristics of different

learning patterns and to categorize our findings, we first introduce three distinct concepts of learning:

Formal learning takes place in education and training institutions, leading to recognized diplomas and qualifications

Non-formal learning takes place alongside the mainstream systems of education and training and does not typically lead to formalized certificates. Non-formal learning may be provided in the workplace and through the activities of civil society organizations and groups. It can also be provided through organizations or services that have been set up to complement formal systems

Informal learning is a natural accompaniment to everyday life. Unlike formal and non-formal learning, informal learning is not necessarily intentional learning, and so may well not be recognized even by individuals themselves as contributing to their knowledge and skills. (Commission of the European Communities [EC], 2000)

The learners are not in a position to explicitly narrate their learning processes.

We placed our analytical focus on informal learning processes, as we assume these to be the main learning processes that are relevant for the informal economy (as per ILO, 2012). It is important to understand that, following this concept, we assume that the learners are not in a position to explicitly narrate their learning processes. Thus, we needed to make use of research methods that are consistent with this notion.

Our evaluation of case studies focuses on the following dimensions for reasons elaborated below: (a) informal apprenticeships, (b) the social environment and (c) the motivation to learn since we specifically evaluated these dimensions.

(a) *Informal apprenticeship* is generally viewed as the typical form to train young individuals in the informal economy (ILO 2012). The ILO (2012) defines informal apprenticeship as follows:

"Informal apprenticeship relates to a system by which a young learner (the apprentice) acquires the skills for a trade or craft in a micro- or small enterprise learning and working side by side with an experienced craftsperson. Apprentice and master craftsperson conclude a training agreement that is embedded in local norms and traditions of a society. Costs of training are shared between apprentice and master craftsperson."

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Informal apprenticeships can clearly be distinguished from vocational education and training (VET) programs,

which are embedded in formal institutions, are structured and lead to recognized certificates (Sodhi & Wessels, 2016). Scholars associate informal apprenticeships with a lot of challenges and problems, which include that the quality of the program is typically not monitored, that learners do not receive certificates (ILO, 2013) and that continued learning is not enhanced, as informal apprenticeships typically do not make use of theoretical knowledge and largely rely on practical applications (UNESCO, 2012). Furthermore, Barber (2004) argues that deficiencies in reflective practices lead to minor learning outcomes and the lack of problem-solving skills for new challenges result in low productivity of the workers. However, there are inevitable benefits, such as its accessibility, as no entry requirements typically exist and the fact that the transfer of knowledge to the learner is very relevant to generate income. Furthermore, informal apprenticeships often provide subsequent employment to the apprentice (ILO, 2012; Barber 2004).

(b) In analyzing informal learning patterns, this paper assumes that the entire *social environment* is a potential source for (particularly informal) learning (Pilz & Wilmshoefer, 2015). However, it considerably depends on the abilities and (c) the *motivation* of the individual person, whether this potential can be exploited (Pilz, Uma &Venkatram, 2015; Pilz & Wilmshoefer, 2015). Consequentially, we evaluate these dimensions in detail.

Methodology & Sampling

We followed the approach of a case study, in which we conducted in-depth qualitative interviews with ten small-scale mechanics. In addition to these interviews, we carefully observed the working environment, the mechanics' working conditions and their work duties as well as their social interactions. By applying the concept of a case study, we believe to have gathered valuable information on topics that are studied only rudimentary by other scholars, particularly from the informal workers' perspectives. The research strategy is explorative in nature, which means that we posed open questions and let the individuals narrate their responses to our research questions.

The study makes use of semi-structured, qualitative interviews. This method was followed due to its ease of access to the surveyed persons. The respondents had considerable time to narrate about their daily routines, work duties and social environment so that we could examine informal learning processes. We applied semi-structured questionnaires to cover all relevant topics. By doing so, we could flexibly react to circumstances and pose follow-up questions to gather a better understanding of particular responses.

It is surely challenging to thoroughly evaluate learning processes by our methods of interviews and short observations. This is particularly due to the nature of informal learning: individuals often do not recognize what they learned or how they learned and thus, cannot explicitly

express potential learning outcomes (Pilz, Uma &Venkatram, 2015; Pilz & Wilmshoefer, 2015). This inherent knowledge of an individual is termed *tacit knowledge* (Polanyi, 1966). Notwithstanding these shortcomings, we believe that our case study generated sufficient information on learning outcomes and processes.

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The majority of the interviews were conducted face-to-face and individually. While translating from Tamil into English, potential problems were expected in the form of incomplete or imprecise transfers of information. In order to mitigate these problems, we carefully instructed the translators. Subsequent to each interview, we held short discussion to review and iron out possible misunderstandings.

We completed all interviews at the workplaces of the mechanics to establish an open atmosphere at the natural environment of our interview partners. We visited the mechanics during working hours, in most cases, in the afternoons, to bypass a possible heavy workload in the mornings and generally experienced the atmosphere to be very open.

We broadly categorized our research questions into different relevant dimensions and placed particular emphasis on an understanding of the learning processes. In respect to our understanding of learning as a process, we attempted to not narrow the questions to learning outcomes, but to evaluate dimensions such as work duties and routines, the social environment and the general character traits of an individual. Furthermore, we placed considerable attention to assess the socioeconomic status of the workers and examine their satisfaction levels.

The case study was conducted in two different districts in Tamil Nadu, Thanjavur and Vellore, both towns being relatively small by Indian standards with a population of approximately 200,000 inhabitants each. We selected eligible mechanics by approaching particular areas where small-scale mechanics are known to operate. Subsequently, we approached the majority of the small-scale workshops randomly, one after another with no consideration of visible differences such as, the size of their workshop. All requested mechanics showed strong willingness to participate in interviews and provided us with valuable information.

The sample contains six mechanics from Thanjavur district and four mechanics from Vellore district. Eight businesses are motorcycle workshops and one is a truck workshop. In consideration of the similarities of both districts, we found that a grouping of workers depending on the place of operation did not lead to additional insights. Instead, we grouped the sample depending on the individual's age, since we evaluated that the young age group (four individuals from 23 to 25 years) and the old age group (six indi-

viduals from 28 to 53 years) differ in dimensions such as educational attainment and qualifications.

The sample contains a wide range of ages (23 to 53 years) of male sex only. Eight individuals in the sample are self-employed, owning a very small business of up to four workers in total, whereas the two employees are both sons of the respective business owners. Four out of the eight self-employed are classified own-account workers since they do not employ any additional worker. In three businesses with additional employees, family members form part of the workforce. These individuals either plan to take over the business or are simply employed due to a lack of alternatives to generate income.

We found that the majority of the individuals started the mechanical trade directly after school or graduation from their studies. Since most customers continuously consult the same mechanic for repair works and thus, a lot of interaction with the local community exists, we assume that the mechanics enjoy a fairly high social standing within their communities. However, all mechanics with children articulated they did not wish their sons to start the mechanical trade, pointing to the assumption that the occupation is not highly reputed in the social environment. Furthermore, the preference for "white collar" jobs of young people in the region as well as the clearly articulated wish of most mechanics that their children should not start the mechanical trade, point to the assumption that the occupation is not highly reputed in the social environment.

Formal Education & Formal Vocational Training

For the mechanics in the sample, we found, similar to the findings of Sodhi (2014) relatively high educational attainments: all individuals went at least to primary school, four dropped out after or in upper primary school and the remaining four attended classes in secondary school (for detailed information on the education system in India see Pilz, 2016a). Interestingly, two young mechanics went to school for the complete 12 years. We found evident differences between the age groups, the younger mechanics having completed more years on average.

All individuals in the sample with 10 years of schooling subsequently pursued formal education or vocational training (VT): two mechanics received diplomas from Industrial Training Institutes (ITIs) and two mechanics completed a bachelor's degree in Computer Science. However, only one individual has received formal VT for the mechanical trade, as the other ITI graduate was trained to become a fitter. It is interesting that all interview respondents, including the ITI automobile engineering certificate holder, argued they learned the mechanical trade informally by means of practice in their workshops. Notwithstanding this claim, we argue that nine mechanics (the ITI automobile engineering holder excluded) learned their trade by means of informal apprenticeships, as we assume that the outlier

learned considerable skills during his formal VT. The two individuals who finished 12th standard both graduated in Computer Sciences and are now employed in the workshops of their fathers. One of them sees his current employment as a transition phase until he obtains a better job. The other wants to take over his father's business. Both currently support the development of their businesses. In terms of learning, both indicated that their education had not prepared them in any way for their occupation. However, considering our observations of learning processes, we doubt this view since particularly those who completed formal programs have developed a broad skills set. Furthermore, we will elaborate that formal learning enhances proactive behavior.

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Six mechanics in the sample have not completed any formal VT. All of them have a lower education level than the other four mechanics and none has completed 10th grade. This finding corresponds to the fact that it is normally not possible for students below 10th grade to attend formal VT programs. As a result, there was simply no other option for early school leavers than acquiring skills outside the formal system. As we will show that non-formal programs are not relevant for new motorcycle models. Informal apprenticeship systems provide the only option to develop skills for the mechanical trade for low performing students.

Considering the apparent education levels within the informal economy, it is not surprising that the four mechanics have completed either a formal education or a formal VT. Even though the total seating capacity of ITIs in the region is low (6,200 in Thanjavur and 6,900 in Vellore), the capacity for the mechanical trade is comparatively high (900 in Thanjavur and 1,250 in Vellore). However, it is important to note that those who completed formal VT as well as the two bachelor graduates could not obtain employment in the formal economy to date, a notion that is in accordance with findings of the NSDC (2012) that formal jobs are in short supply in the regions of research (see also Mehrotra, 2014; Pilz, 2016b).

Working Conditions & Job Satisfaction

We found that no mechanic in the sample needed to work in any additional job, which scholars generally view as a typical characteristic of work in the informal economy in South India (Chen & Doane, 2008). This finding implies that the mechanics in our sample can earn their livelihoods through their mechanical trade. It was surprising for us to learn that eight individuals possess a private life insurance (even though the insured amount is very low). These mechanics argued that they intended to secure their families' financial security and thus see the necessity to arrange for such provisions. One mechanic, the owner of the

largest business, even plans to cover both the workshop and the employees under an insurance scheme. However, these findings should not belie the notion that social security for these mechanics is generally low: First, the insured amount of life insurances lies in a range of 30,000 to 300,000 INR only. Second, government schemes cannot secure the mechanics in case an inability to work occurs, for example as a result from an accident.

Five of the researched workshops are affiliated with local mechanics associations. The main added value is that these associations arrange for trainings that are promoted by manufacturers of new motorcycle models. But these associations also provide other benefits: The association of one mechanic want to develop a pension plan and complete health checks once a year for its members. Another interview partner argued that associations might also facilitate the access to credit. However, our overall assessment of the benefits of these associations is mixed, as some appreciate the support and others only see minor benefits. Our general impression was that the support largely depends on individual involvement as well as the engagement of the particular association. However, we argue that the potential to contribute to improved productivity and learning could be considerably enhanced using these associations as a means to reach the informal workers, since they could function as an entry point into the system.

We observed that all mechanics in the sample are extremely dedicated toward their work. Also due to the necessity to generate income and serve a lot of customers, they work very long hours: on average, the mechanics work 12.7 hours daily and 26 days monthly. All mechanics with children particularly emphasized that they needed the income to provide a good education for their children. We assume that only the long working hours assure sufficient incomes to finance the studies. Also, since the mechanics only enjoy limited social protection, the generation of income is necessary to save for economically challenging situations in future (Sodhi, 2014).

Due to the necessity to generate income and serve a lot of customers, they work very long hours.

Despite the fact that almost half the mechanics in the sample find their income "not enough", we were surprised about the high job satisfaction levels: all mechanics told us they were generally satisfied with their trade. We assume the main reason is that the individuals strongly identify themselves with their work and that they perceive most work tasks as very challenging. After they completed particular work tasks, they might experience a feeling of accomplishment. Furthermore, we believe that many mechanics see themselves as experts in their particular work areas. Also, they mentioned that the good quality service and the contribution to the local society are reasons to be satisfied with their jobs. The feeling of pride as well as a high self-confidence in skills is very apparent for the majority of the interviewed persons

(see also Barber, 2004). In this regard, many mechanics argued that their workshop was reputed for its quality work. Exemplary is the statement of 23-year old Raja "as precise as we do, no one does". This finding is in line with a study of Pilz, Uma and Venkatram (2015), in which the authors found a high level of pride articulated by street food vendors in India.

The Skill Set of the Mechanics

We emphasized that most of the mechanics in the sample are self-employed and generate sufficient incomes for their families (despite difficult working conditions). Therefore, we conclude that they successfully operate their workshops. Managing an own business is surely a complex exercise: even though the mechanics commonly referred to technical skills and good quality work as the basis to retain customers and generate income, we assume that the mechanics possess a variety of skills that assure a successful business.

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Our general impression is that the mechanics do not view non-technical skills, such as organizational or financial skills, as relevant for their businesses. Correspondingly, they do not specifically dedicate time to develop such skills. However, we observed that the mechanics are not occupied with the mere repair of motorcycles, but instead undertake various other tasks. Particularly interesting is the perception that all mechanics constantly evaluate the markets, as they commonly expressed good knowledge about new motorcycle types or the current economic situation of competitors. Therefore, they are very aware of market demands and constantly evaluate opportunities to improve their businesses. Since this knowledge was not mentioned by our interview partners, we assume that a lot of tacit knowledge is apparent. In fact, they could have developed very strong abilities and a lot of different skills that could not be analyzed in our research.

We gathered a broad overview of (non-technical) business skills. To summarize our findings in advance, the mechanics in the sample demonstrated (a) limited use of advertising measures and (b) a very limited financial literacy, whereas (c) price negotiations were very common. Consider that low skills in these specific areas result from the fact that the mechanics have not received any training in these areas:

(a) In regard to advertisement, the mechanics in the sample typically argued "it is all about the word of mouth" and that good quality work was sufficient to attract customers. Only one mechanic advertises his services using microphone sets, whereas many mechanics consider their shop signs sufficient to receive attention. Thus, advertising is used to a very limited extent. An assessment whether corresponding measures would be effective is not subject of this case study, how-

ever, it must be noted that workshops typically operate next to each other and a corresponding mutual understanding between mechanics might exist that limits the use of advertisement measures.

The overall financial literacy seems very limited.

(b) The overall financial literacy seems very limited: even though many mechanics are aware of sources for loans (that are often informal), none had approached a loan to date. Exemplary for a lack of basic knowledge about financial products stands Kuleandi: "I will simply approach the bank to ask for a loan". Two mechanics of the sample indeed plan to request for a loan to expand their workshops, whereas the others (six mechanics also plan to expand their businesses) want to rely on savings. However, we also found outliers, such as the 24-year old Computer Science graduate Muthi, who explained turnover and costs in detail to both his father and the researchers. This finding suggests that learning by formal education could be much more relevant for business operations than many mechanics think.

(c) Apart from limited use of advertising measures and a generally very low financial literacy (despite the mentioned exception), the finding that the mechanics commonly negotiate prices points to the variety of work tasks: some workshops offer discounts for regular customers whereas others negotiate or simply bargain. One mechanic specifically mentioned to compare prices with other workshops and to set own prices accordingly. Interestingly, this is also Computer Science graduate Muthi. It points to the assumption that such skills were acquired by means of formal education.

We assume that social skills are necessary to successfully operate these workshops, since good relationships with surrounding workshop owners, spare parts suppliers or the local associations assure a high degree of knowledge sharing. Also, the exchange of tools is an incentive to maintain good relationships. Furthermore, social skills and organizational skills are required to delegate work duties and organize operations. As the mechanics constantly interact with customers, we believe that further social skills are evident. These include customer orientation and communication skills. All these skills and abilities considerably contribute to the successful operation of the businesses. Also, we inferred that the workers need to be highly flexible, creative and innovative, since they need to deal with challenging conditions in the workshops such as the limited availability of tools and need to provide low cost solutions to their customers.

Learning by Informal Apprenticeships

We emphasized that the informal apprenticeship is the common form of learning basic skills for the mechanics in the sample. We argue that learning is often completed by mere observation as well as simple practical imitation and that it is generally delivered without the trans-

fer of theoretical knowledge. In order to provide additional insights, we further want to elaborate particular findings.

First, we wish to emphasize that most mechanics in the sample themselves do not see a lot of value in the transfer of theoretical knowledge. For informal apprenticeships, this finding applies both for the apprentice and the master craftsperson equally. This was clearly expressed byDenakaran: "It's all about self-learning" or the finding that most successful business owner Peter emphasized he learned all his skills from practice, despite his formal diploma in automobile engineering. It became apparent that there is no work culture that appreciates the benefits of theoretical training. Since all mechanics were trained by practice oriented methods, this is the standard means for them and thus, they also transfer their knowledge to the next generation using these practical training methods that largely rely on learning by imitation.

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Very interesting is also the high dependence on the supervisor that we observed, which possibly leads to low learning outcomes. Often, only one supervisor is responsible for the training, an aspect that makes potential problems severe: It is particularly an issue for the apprentice if the vocational skills or the training skills of the trainer are limited or his motivation level is low. In regard to the latter, Ramesh claimed: "Three out of four mechanics were not interested to teach me" and explained "business owners never want the workers to know everything because they might leave with their knowledge".

Notwithstanding this dependence, the general quality of the supervisors was assessed very good. The majority of the mechanics was very satisfied and described their supervisor as "the best", "the expert" or "very experienced". It must be considered that these assessments mainly relate to technical skills of the supervisors or master craftsmen, since the transfer of non-technical knowledge seems hardly relevant, at least when we evaluate explicit learning outcomes. As already emphasized, it seems that the mechanics do not request to learn these skills and instead are more interested in achieving a master status in a particular technical field.

A further interesting finding is that: in four cases, the mechanic's father was the supervisor, at least for some part of the apprenticeship. This finding corresponds to the general perception that the family is highly influential for a young person, not only in the selection of an occupation, but also in his training itself.

We also identified the common problem articulated by ILO (2012), that informal workers do not receive certificates for their apprenticeships since many mechanics learned their skills from people within their close network. Consequently, informally employed workers cannot signal their skills and abilities to

other potential employers (UNESCO, 2012). From the perspective of the mechanics in the sample, we found that they generally do not appreciate the value of these certificates: They argued it was simply not common to issue such documents and seemed to accept this condition. Also, one mechanic claimed the general pattern for formal workshops is to hand out certificates after ten years of employment only. It is very apparent that this "common practice" is widely accepted within the group of mechanics. Again, many mechanics simply proceed with certain structures and patterns that are largely accepted as norms within their group.

Informal & Non-formal Learning

We assume that the mechanics in the sample developed their skills over a long time span. Generally, we shall describe the learning processes as reactive, particularly in regard to technical skills: The majority of the mechanics in the sample typically does not anticipate problems in a proactive manner, but react to new problems and challenges. Requested to recall particular skills acquired within the last year, the interview respondents commonly referred to technical skills such as the ability to install new sensors, repair motorcycle grips or service new types of motorcycles. All these skills were usually developed upon customer requests. Subsequent to these requests, different methods are used to approach the problem: some mechanics read the manuals and others contact the manufacturer or use the Internet to identify required spare parts. Interestingly, two mechanics mentioned to gather with other mechanics to discuss technical problems. Thus, the importance of social networks and respective social skills becomes apparent. It must be noted that the degree of pro-activity certainly varies across individuals and mainly refers to the solution of technical problems. For example, with regard to business expansion plans, some interview respondents demonstrated a high degree of pro-activity.

Our respondents described their daily work tasks as challenging and the competition between workshops as fierce. The expectation of customers to receive quality service contributes to a demanding learning environment and the permanent introduction of new models of vehicle makes learning very complex. The exposure to this environment surely enhances informal learning. Also due to these factors, a number of workshops move into a specialization in certain technical fields such as the repair of engines or the exclusive service for particular motorcycle types. Thus, we argue that the high complexity leads to an enhanced learning in that specific technical field. The fact that these technical skills were developed without attending any formal or non-formal training program results in our conclusion that learning by doing is the main form of learning in the sample.

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Despite these patterns of informal learning, the mechanics in the sample occasionally attend training programs of

motorcycle manufacturers in order to learn about new models in the market. We classify this form of learning non-formal, since the manufacturers' training is provided alongside the formal system. The mechanics associations have the function to transfer respective information to the mechanics. Subsequently, the mechanics who are interested in receiving training are invited to the manufacturers' branch premises for a short duration (usually one day only) and typically receive certificates of attendance. Many mechanics highly value these opportunities and travel long distances to locations like Chennai or Bangalore. The fact that the manufacturers provide meals incentivizes the mechanics to attend these trainings. We could not find out whether the mechanics use the corresponding certificates to signal their familiarity with certain new models to their customers, but all the mechanics seem to value these certificates. We assume this to be a direct and relevant incentive for mechanics to attend these trainings. This is particularly surprising, since the common practice, at least for informal apprenticeships, is not to issue any certificate. However, the relevance and learning outcomes of these trainings should not be overstated, since learning is largely limited to the presentation and short explanations of new models only and the training takes place only occasionally and attendance depends on the motivation of the individual and his financial situation (since he will need to interrupt his work to attend these trainings). Majority of mechanics attended one to three times in total only. However, some exceptions exist, such as the 38-year old Subramani who received this form of training more than ten times. Despite the presentation of models, the main benefit could lie in the gathering with other mechanics which enhances the exchange of information and knowledge.

The mechanics told us that the main problem to attend these trainings was the inability to leave their workshops, since income cannot be generated during the time of absence. This burden seems to outweigh the potential benefits for many mechanics. Furthermore, one mechanic emphasized: "I had the opportunity to attend such training but I refused because I do not feel comfortable (because) that I cannot read and write". Even though this case is an exception in the sample, it could be a problem for a large number of other mechanics, taking the number of illiterate persons in the Indian labor force into consideration. It is reasonable to assume that there is no other training provider that delivers non-formal training, since no mechanic mentioned any further training program. In case there were NGOs active in this respect, they are at least not relevant for the mechanics in the sample. Thus, the sources of learning for the mechanics (outside their network) are very limited. We assume this enhances the establishment of common practices and local work and learning traditions.

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In comparison with similar studies, the low relevance of non-formal training seems particularly apparent for occupations with a comparable socioeconomic status to the mechanics in the sample. For example, Pilz, Uma & Venkatram (2015) find that non-formal training is irrelevant for street food vendors in Delhi and Coimbatore that have a fairly high income, whereas an in-depth study of learning processes of economically challenged fishing families in Eastern India finds an active role of non-governmental organizations (NGOs) and local authorities in training (Pilz &Wilmshoefer, 2015). The socioeconomic status of the latter occupational group is considerably lower than that of the mechanics in the sample, which explains why no NGO engages in providing training in the present case.

In addition to these dimensions, we specifically evaluated the use of the Internet for learning, as its importance is steadily increasing in India, also in the rural parts. The results were mixed. Four individuals did not have access to the network, two used it for entertainment only and four actually carried out work-related tasks, mainly to identify and order spare parts. For theoretical knowledge, the Internet is not used, whereas the suggestion of Peter ("video demonstrations would be good") points to the potential for this medium to evolve as a source for learning. Also considering increased literacy rates in India, the relevance of the Internet may increase in future.

We also expect the social environment to considerably contribute to the development of skills in the present case and that the mechanics particularly benefit from their work-related networks. We already argued that interactions with customers, employees, other workshop owners, spare parts suppliers or associations were required to successfully operate the workshops. This implies that the mechanics are exposed to a large number of social contacts. Correspondingly, the mechanics have an incentive and interest to improve their social skills to assure the generation of income. This learning purely takes place informally: For example, the individual mechanic simply learned by experience to achieve high customer satisfaction. Consequently, these learning processes lead to a large amount of tacit knowledge that cannot be transferred easily to apprentices or employees.

The mechanics have an incentive and interest to improve their social skills to assure the generation of income.

Motivation & Training Demands

In assessing the relevance of demand-driven approaches to improve skills development, it is important to understand the motivation to learn and evaluate specific training demands of informally employed workers (Singh, 2000). In this regard, scholars argue that training should cater to the workers' needs in order to be interesting, relevant and requested by the workers (World Bank, 2008). But we believe it is also important that this training delivers relevant skills that can actu-

ally increase productivity and improve opportunities in the labor market (or the ability to learn). Workers in turn do not necessarily request training for these skills, an aspect that we evaluated in our research project.

Most of the mechanics in the sample are generally motivated to receive training and feel that training can enhance their productivity and improve earnings (see also Barber, 2004; Sodhi, 2014). This motivation is not necessarily intrinsic but additionally reinforced by the competitive business environment. The mechanics are particularly interested in receiving further training in certain technical skills. We found that some mechanics see themselves as experts in particular technical fields and are thus reluctant to learn anything apart from new models. This underlines that the mechanics are not (explicitly) aware of the comprehensive character of skills that are needed to successfully operate their businesses. This can also be explained by the fact that no non-formal training provider delivers training in social or organizational skills to the mechanics. As a consequence, the mechanics are not exposed to learning any non-technical skills, since there is no supply of such kind of training.

Despite the general motivation to learn, obstacles exist to actually attend training programs. We experienced the major challenge to be the low degree of social protection. The mechanics typically argue that they needed to interrupt their work and could not afford an absence from their workshop. This problem is particularly apparent for own-account workers who do not employ workers that could take care of their workshops. Considering the fact that the available training of motorcycle manufacturers is carried out in locations far from the workplaces explains this concern. A typical example is the comment of Arjun: "No training facility is provided in nearby areas, that is why it is hard to attend". Our interview partners suggested to organize for mobile training that can directly be completed within the neighboring areas. Furthermore, one mechanic specifically argued his illiteracy prevented him from attending training programs since he could not follow the content.

Theoretical training, also in non-technical skills, could be most efficient to increase productivity and earnings for the mechanics.

As emphasized, the majority of the mechanics requested trade-specific, technical training. They are specifically interested in learning about new models. Furthermore, the mechanics expressed that practical presentations are clearly preferred over theoretical learning. We assess this general demand for technical skills to be critical, as the elaborated deficiencies of informal apprenticeships similarly apply to the case of lifelong learning after basic skills are acquired. Theoretical training, also in non-technical skills, could be most efficient to increase productivity and earnings for the mechanics. However, we also found exceptions within the group of mechanics: e.g., 24-year old Muthi argued he wanted to gather an understanding about the

theoretical functioning of engines, 40-year old Kpuleandi requires training in sales and illiterate Ramesh argued general capacity building and literacy skills were of most concern for him. This shows that there might be a demand for training providers that deliver some degree of theoretical knowledge and teach skills that are concerned with these dimensions. Overall, we can summarize that we found a supply as well as a demand problem for relevant skills development programs.

Learning Culture & Suggestions

We argue that the lack of awareness for relevant skills such as the ability for problem-solving and the low degree of pro-activity to approach challenges results from the work and learning culture as well as the low relevance of formal education and non-formal training (Mitra, 2015). We believe that this work and learning culture is deeply embedded in the group of mechanics, since learning methods and work duties are transferred over generations (Barber, 2004).

For informal apprenticeships, the apprentice needs to contribute to the generation of income within short time, which makes it evident that the workshop owner wants his apprentice to practically work from the beginning. Therefore, theoretical training and general capacity building fall short and learning by doing as well as practical applications are the common forms to train the apprentice.

We also showed the relevance of families and local networks. Families in particular do not only highly influence the decisions of their children to start a particular occupation, but are often directly involved in delivering the training. We assume that the common practice that families dictate decisions for their children contributed to the reactive learning behavior that we found in the sample.

We emphasized that informal learning is very relevant throughout the entire work life of the mechanics. Particularly, the very challenging work environment and work-related social contacts considerably enhance learning processes. This learning potential could be further exploited by enhancing workplace learning, for example, by promoting regular visits to other workshops or by organizing exchange events (Singh, 2000). Interestingly, those mechanics in the sample who have finished 10th grade and subsequently completed degrees seem to be much more aware of the comprehensiveness of required skills for their jobs and the relevance of theoretical education than the mechanics who completed less years of schooling. Thus, we expect the promotion of education and formal VET to have great benefits for young individuals, not only in increased employment opportunities, but also in improved learning processes.

The work and learning culture should be addressed so that learning processes and learning outcomes can be positively influenced.

Resulting from these considerations, we conclude that the work and learning culture should be addressed so that learning processes and learning outcomes can be positively influenced. We believe that this could be best achieved by emphasizing improved labor market outcomes to the workers. If the mechanics perceive theoretical training as a means to improve productivity, income and opportunities to obtain better employment, they are likely to adjust their training methods accordingly. Since learning patterns are deeply embedded in local traditions, we suggest that it is most effective to approach these concerns outside the system by effective formal and non-formal education and training programs.

We see the promotion of general formal education as a major pillar in the education strategy, so that a large number of young people are taught to learn proactively and develop self-esteem as the basis for this aim. Furthermore, we strongly encourage an improved VET system to train mechanics. It is important that these programs contribute to a change of the work and learning culture and thus, provide the students with a variety of skills that support proactive behavior. Consequently, better education and an improved capacity of VET not only improve opportunities to obtain decent work, but could also change the entire work and learning culture. However, we emphasize that it is a long and incremental process to approach these patterns that are traditionally followed. Considering the elaborated challenges for the education system and the low relevance of VET we doubt whether this can be achieved by a focus on the formal system only (King, 2012). In addition to the promotion of formal education and VET, we find it thus important to improve the quality of informal apprenticeships (Singh, 2000) and to deliver effective training to the informal economy (Mitra, 2002).

Since the elaborated challenges and problems of informal apprenticeships and the attendance of training programs are somewhat different, we conclude with concrete policy measures that are derived from our findings.

In general, we suggest that the mechanics closely cooperate to improve the entire system of apprenticeships. In order to enhance theoretical learning, the benefits of different non-technical skills need to be emphasized to the mechanics. Due to the existing structures, we believe that the local mechanics associations could considerably facilitate this change process, since they are already established in the regions of research. These could be approached by policy makers to promote the idea that a broad skill set is important for a successful business.

In order to decrease the dependence on a specific master craftsperson and increase learning outcomes, a rotation system of apprentices seems to be very beneficial for both the workshops and the apprentices. With such a system, a high degree of knowledge sharing is assured on the one hand, and on the other hand, the dependence on specific supervisors is mitigated (ILO, 2012). Further research should be conducted to assess

whether the mechanics would be willing to accept such a system and under which conditions this could be implemented.

Furthermore, offering courses for both master craftsmen and apprentices from formal institutions such as it is (see Kumar, 2016; Tara, Kumar & Pilz 2016) or non-formal training providers could also positively affect the learning culture (ILO, 2012). The same could also be achieved by establishing links to formal firms that could provide short-term training for the apprentices (ILO, 2012). Again, the mechanics associations could play a large role in establishing these linkages. However, it is evident that incentives need to be established for all involved institutions so that they are interested in such a system.

In order to accelerate the change of the work and learning culture, non-formal training program providers could directly approach the trained mechanics and self-employed workshop owners. In this regard, we emphasize that it is important to raise the awareness to learn a variety of skills (such as social and organisational skills or financial literacy) and provide theoretical knowledge to a certain extent. Due to the absence of non-formal training providers, the mechanics could rely on their existing system of associations to promote training. By promoting training for a variety of skills, mechanics associations could be the focal point to enter the system. Since the system and organization of mechanical associations was not evaluated in the present case study, we suggest further research on the role and potential of these associations to learn how they work and how they could positively influence the work and learning culture, the linkages with formal sector enterprises and formal and non-formal institutions.

We found that limited social protection is a key obstacle for the mechanics to attend training programs. Correspondingly, policy measures that increase social protection could indirectly improve training demands. If the mechanics were not permanently concerned to generate income for their families, they will be more willing to leave their workplace for some time. We argue that this concern should be primarily a public duty, since the mechanics are often not in a position to contribute to these costs. As a result, the concern of being absent from the workplace could be mitigated. Thus, improved social protection does not only improve the working conditions for the mechanics, but could also enhance their participation in training programs.

Improved social protection does not only improve the working conditions for the mechanics, but could also enhance their participation in training programs.

As a final remark, we argue that policy makers should not purely focus on demand-driven training and learning approaches (Ramasamy, 2016), since we found that the mechanics do not necessarily request relevant skills development programs. Even though it is not doubted that training needs to be interesting and relevant so the mechanics attend respec-

tive programs, we believe that the supply side (formal and non-formal institutions) should also provide learning opportunities that can actually improve productivities, incomes and working conditions.

Conclusion

"Giving informal workers more rights, access to services and a voice will not only contribute to development and the reduction of poverty but will also bring societies closer together". (Juettingand deLaiglesia, 2009 : 143). The objective of this paper was to analyze the learning processes in the informal economy in South India. Despite the fact that these mechanics almost naturally belong to Indian streets, their work and learning cultures are not in the focus of many researchers. Since this paper studied these topics in detail, a comprehensive picture of the working conditions, skills and learning processes of small-scale mechanics in South India could be depicted. Correspondingly, this work forms a basis for decision makers to improve working conditions, initiate measures to facilitate the transition phase from school to work and exploit learning potentials.

The learning is typically not structured, depends on families and the supervisors and problems are not targeted proactively.

Even though we found that the job satisfaction levels are high and a broad skill set is existent, we argue that the promotion of relevant skills and the provision of better social protection could considerably improve the generation of income for the mechanics. The main deficiencies include the low relevance of non-formal learning due to a lack of training supply and the corresponding prevalence of informal apprenticeships and informal learning patterns. The informal learning processes that we found in our case study correspond to the common notion of deficiencies: The learning is typically not structured, depends on families and the supervisors and problems are not targeted proactively. Overall, we argue that these problems and challenges can be attributed to the work and learning cultures of the mechanics, which are deeply embedded in their occupational groups and local networks. Due to the low relevance of formal institutions and non-formal training providers in training supply, the influence of policy makers to approach existing deficiencies is currently only indirect.

With regard to working conditions as well as skills development programs, we can say that the mechanics in our sample are currently left alone, with limited supervision or support from the government. We showed that the workshops do not have the financial ability to improve the low social protection themselves or to formalize their businesses. This is also apparent for the traditional system of informal apprenticeships, which could considerably be improved by an influence coming from outside the system. Therefore, we argue that local authorities should get more involved in the change of informal apprenticeships and the provision of social insurances.

In order to positively influence the individual from the beginning, we also suggest that it is important that the society promotes the development of young persons to become proactive citizens. As a consequence, we expect them to not simply accept deficiencies in work and learning traditions, but to proactively approach problems. This could enhance productivity and the generation of income. Since we argued that an improved general education system is expected to be most effective to achieve this target, the benefits to promote school enrolment rates and improve the quality of schooling are not only limited to better opportunities to obtain decent work, but to develop young individuals that are willing to accept challenges and proactively approach them. In order to accelerate the positive change of work and learning traditions, we argue that local mechanics associations could play a considerable role. For example, they could arrange for linkages with non-formal and formal institutions, formal sector enterprises and initiate a rotation system for the informal apprentice. Thus, we suggest further analysis of the organization, structure and potential of these associations in future research projects.

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