

REMOVING OBSTACLES FOR EMERGING CONTRACTORS



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Abstract

The municipality of Stellenbosch recently funded the supply and installation of 1200 prepaid electrical meters and Ready Boards to Langrug, an informal settlement in Franschoek. Whilst this is a positive contribution to the socio-economic needs of the country, this paper addresses the need for project management skills amongst contractors engaged in the implementation of such projects. These emerging companies or contractors have low levels of resources and their survival is driven by the initiative taken by the owners. The importance of project plans, action plans, deliverables, proper budgeting, estimation of activity times and cost estimation are highlighted. The discussions are supported by actual interactions with various stakeholders in the project – the municipality and householders on the one hand and the main contractor and sub-contractors on the other. Teething problems with electrification of dwellings of emerging consumers in the low-income sector are also discussed. The results of a survey and obstacles, and conclusions are discussed. The authors aim to promote and encourage the education of project managers of emerging electrical enterprises in small business. The problem with business acumen and transfer of knowledge to equip emerging companies to become competent sub-contractors are discussed. The problems with dealing with different parties involved in these types of engineering projects should be solved amicably to ensure that projects are completed according to the agreed deliverables. Is it fair to make a call that government (SETAS, dti, DME, ESKOM) and local authorities take the initiative in this type of training strategy?

Glossary

Action plan- the set of activities, their schedules, and the resources needed to complete the project.

Deliverables- the physical items to be delivered from a project and includes reports, plans and physical objects.

Project plan- the nominal plan to which deviations can be compared.

Project mission- clearly defined and agreed upon objectives in the project plan is to be addressed.

1. Introduction and Background

At the 51st national ANC conference in December 2002 it was resolved that in the rationalising of electricity distribution, viable and affordable electricity supply should be ensured on the foundation of a minimum free basic electricity service to all households. According to the chairman of the South African Energy Association, Brian Strachan, 800 million people in Africa collectively use less energy than the population of Spain (Strachan, 2009). Electrification of informal settlements, like the one focussed on in this paper, is therefore justified, if the installations are completed according to the SANS 0142 or updated SANS 10142 standard. On the other hand the minister of finance, Pravin Gordhan has severe problems to deal with; a R70bn expected revenue shortfall for 2010/11, disastrous SETA governance and increasing energy costs, amongst others. This would make electricity unaffordable for the poor (Patin, 2009:36). Even with the aforementioned challenges, the government's objective of access to energy and electricity to all its citizens remains a national priority.

According to Mohr and Fourie, economic growth is not a sufficient condition for economic development. Basic needs such as the minimum requirements for private consumption such as food, shelter and clothing, and essential services such as clean drinking water, sanitation, public transport, health and electricity are critical factors.

Most development economists are in agreement that development is stifled if the indicators of poverty, inequality and unemployment are not improved, even if real GDP is being achieved. People should have access to food, clothing, protection, potable water, sanitation and electricity for development to take place. The question is: "Where will the resources required to achieve these goals come from?" (Mohr & Fourie, 2006. Economics for South African students:592).

Low income households make use of paraffin and wood as their primary energy source. The consequences of the use of such sources result in

an increase risk of fire hazards, fire-related and ingestion injuries, respiratory problems and an increased environmental impact load. To prioritise the socio-economic upliftment of South Africa, one of the key factors the CSIR's Integrated Energy / Economic Framework is sociological facilitation to ensure community ownership and sustainable enterprise management (Szewczuk, 2009:187). This paper pleads for an undertaking in line with the CSIR's framework to empower contractors and project managers so as to overcome numerous shortcomings as addressed in this paper.

The recent violent protest against poor service delivery in South Africa serves as a reminder of the strength of the voice of community members and the fact that consumers have rights. It is therefore imperative to respect their human values and cater for their needs. Batho Pele or "People First" is a very serious government initiative to motivate public servants to become more service orientated, to strive for excellence in service delivery and to commit to continuous service delivery improvement. (Stoner, 2009: 36). The public regards the on-site electrical contractor as a municipal worker, requiring that he, his project manager and his labour force to adhere to the principles of Batho Pele; to satisfy the customers' needs. It is therefore essential that installations and projects of this nature are completed in the most efficient way in the interest of all stakeholders - homeowners, the municipality or government, the contractor, the economy etc.

Densities of typical informal settlements in the Cape metropole vary between 150 to 200 families per ha (Lloyd, 2010: 22-25). The ideal case would be to construct homes within the informal settlement area in the shortest possible time, without relocation. This is a daunting task. The nearest to that is relocation to temporary accommodation as their shacks are sequentially demolished. Low cost houses and services are then installed. As the new units are completed residents are then moved in and out of the temporary accommodation.

The case of the electrification of Langrug, a rural informal settlement in Franschhoek, is proof of the South African government's commitment to make electrification available to informal settlements in rural areas. A tender for the installation of 1200 prepaid electrical meters and ready boards in the informal settlement in Franschhoek was awarded to an established electrical engineering company. The company successfully completed the project in the agreed upon time. Locals were employed with the necessary skills transfer. This self empowerment was evident in the case of the electrification of the shacks in Langrug.

Each of these households were issued with a 20A supply since the informal settlement was situated in a



Figure 1: Mounting a pole in the electrification project at the Langrug informal settlement

low income group. A split-type prepaid meter was installed in an enclosure mounted on a streetlight pole. Figure 1 shows installers busy on site. Each prepaid meter was connected to a keypad installed next to the ready board mounted inside the dwelling. This averts meter tampering to a degree. Part of the contract was the compulsory use of local labour. The main contractor initially subcontracted the installations (labour only) to an emerging subcontracting company. The shortcomings of this subcontractor prompted the authors to address means of removing obstacles for emerging contractors.

2. Subcontractor skills deficiencies

During the first few days of the commencement of the project, it was requested of the sub-contractor whether he or his project manager had any training or experience related to the management of staff and/or skills in project budgeting and cost estimation, with particular emphasis in electrical engineering projects. Some of the shortcomings varied from arriving on site without tools to incurring huge daily overheads due to travel and other unwarranted expenses. During these discussions with the sub-contractor, it became obvious that not only were the higher level skills involved in proper project management absent, but the most basic of tasks were handled in a completely haphazard and *ad hoc* fashion. In these cases simple common sense would have sufficed in realising the completion of basic tasks. Whether these problems were due to a bad choice of sub-contractor or more widespread was of obvious concern. If the latter was indeed the case, as later ascertained through discussions with the municipality, our priorities for socio-economic development are seriously compromised through the lack of essential skills necessary amongst contractors.

In addition, a lack of these basic skills are often barriers in subcontractors not being able to access finance. A small business corporation is a company or closed corporation that meets a number of requirements in terms of ownership and maximum gross income levels. To qualify as a small business corporation, a business must have a gross income of R14 million or less a year (du Preez, 2008:14). A small business corporation will pay income tax at a specified rate: the first R46 000 of taxable income is tax free; the next R300 000 of taxable income is taxed at 10%; and any further income is taxed at 28%.

In general however, the local labourers are in a predicament when the emerging sub-contractors exploit them (by not remunerating them on time, as agreed upon etc.). They justify their action by falsely blaming the main contractor (in most cases an established company) for compensating them a few weeks after they delivered the service. The main contractor rightfully proves that the agreed upon contract fee was honoured at the stipulated compensation time as per their contract. The emerging company is in agreement with the terms before the start of the project, by signing the contract. This highlights the lack of business ethics by the emerging contractors, when they “do not understand” the contract when it suits them. A local labourer busy on site is shown in Figure 2.



Figure 2: The planting of an electric pole by a local labourer

Without adequate funding, coupled with inadequate project management skills, the emerging contractor is often forced to abandon the project midway (normally after their first payment), resulting in major delays in the delivery of services and a bad reflection on the municipality.

3. Project Management

Project management is the discipline of achieving targets by optimizing the use of resources such as time, money, material, energy, space, etc. The project manager strives to maintain the progress and productive interaction of the various parties involved by executing all or some of five project stages – initiation, planning, execution or production, monitoring or control and completion. He should have three main objectives *viz.* performance, effectiveness and cost.

Constant problems of dealing with the different parties involved the project *viz.* the customer, the project team, the public, various forums and committees and management, requires a special individual. The project manager is required to identify and solve any problem as soon as possible. If these problems are not resolved timeously, deviations to the project plan will result, with the consequences of late deadlines, over budgeting, penalties, etc.

Jack Welch, CEO of General Electric for more than 20 years, invested heavily in his project managers, equipping them with the skills and drive to follow suit with their own teams. In every potential leader he looked for his “E to the fourth power” *viz.* enormous personal energy, ability to motivate and energize others, having a competitive edge, and the skill to execute on those attributes (Byrne, 2007:19)

Peter Drucker is referred to as the man who invented management. What J. Maynard Keynes is to economics or W. Edwards Deming to quality, Drucker is to management. He was the first to assert that workers should be treated as assets, not as liabilities (Byrne, 2007:177). Pinto and Slevin associated three strategies in the implementation phase of projects; project mission, management support and project action plan (Meredith & Mantel, 2003).

3.1 Project Planning

An expert in Organisational Behaviour and Leadership, Lize Booysen’s response to what she considers to be her greatest strength as a businessperson was as follows: “I have exceptional planning skills” (Erasmus-Kritzing, 2003:36). Planning is vital to meet project deadlines. Without a

clear beginning, project planning and progress can easily go astray, thus a project launch meeting is well worth the effort. The outcome of regular meetings should always be that; the technical scope is established, areas of performance responsibility are accepted, schedules and budgets are spelt out and a risk management plan is reviewed (Meredith & Mantel, 2003:242-243).

In order to meet project deadlines, the calculation or proper estimation of the most likely activity times is crucial. Actual activity times of projects are rarely less than the estimated time. This is attributed to Parkinson's law that states that work expands to fill the allotted time (Meredith & Mantel, 2003:395). According to Robinson, activities of daily living (ADL) are personal activities that are performed in the course of a normal day, including eating, ablutions, combing hair, brushing teeth, reading etc., but excludes hobbies and work related activities. (Robinson, 2000: 2542). These ADLs must be taken into account when compiling an estimate of actual working time.

Expected completion times of activities in a project should be derived at by using three time estimates – optimistic, pessimistic and most likely times. These estimated times are expressions of risk associated with each activity time. Assume that all possible times are represented by an asymmetrical beta statistical distribution as shown in Figure 3 (Meredith & Mantel, 2010: 345). The most likely time (m) is the mode of distribution. The project manager should select the optimistic time (a) so that the actual time required to complete the project is greater than a about 99% of the time. Likewise the pessimistic time (b) should be estimated so that the actual time required to complete the project is less than b about 99% of the time. The expected time (TE) is given by

$$TE = \frac{(a + 4m + b)}{6} \quad (1)$$

Where

- a = optimistic time estimate
- b = pessimistic time estimate
- m = most likely time estimate

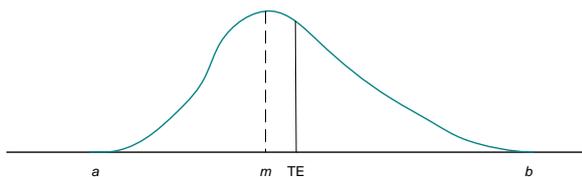


Figure 3: Distribution of all possible activity times

The beta distribution is highly flexible compared to a normal distribution (where $m-a = m-b$), since

extremes such as $a=m$, $b=m$ can be catered for. The expected time is an estimate of the mean of the distribution. It is the weighted average of a , m and b with weights of 1-4-1. The actual activity time is rarely less than the estimate of the mode accounting for the right skew of the distribution. This is due to Parkinson's law. If unaccountable problems occur, the actual activity time may increase, but almost never decrease. The normal tendency to counter timing issues is to increase manpower. This can unfortunately backfire as some projects adhere to Brooks' law viz: "Adding manpower to a late software project makes it later" (Meredith & Mantel, 2003).

Peter Drucker is quoted on the issue of planning; "Plans are only good intentions unless they immediately degenerate into hard work". The primary purpose of planning is to establish a set of directions in satisfactory detail in order for the project team to know exactly what needs to be done, when it must be done, and what resources to use in order to produce the deliverables of the project successfully (Meredith & Mantel, 2003:239). In the planning process activities should be identified to be done sequentially and others simultaneously. *The only certainty is that things will not go precisely as planned.*

3.2 Breakeven Analysis and Learning Curves

The starting point of financial planning should be simple breakeven analysis. If a contractor is paid a price P per installation and pays a fixed cost F and a variable cost V . For n installations, the net revenue R received is

$$R = nM - F \quad (2)$$

Where the contribution margin is the difference between the unit price and the variable cost ($M = P - V$). Breakeven occurs at installation n_b where the net revenue $R = 0$. Equation 2 at breakeven now becomes

$$F = Mn_b \quad (3)$$

So the number of installations to be made to reach breakeven is

$$n_b = \frac{F}{M}$$

(3) in (2) results in the total revenue R in terms of the contribution margin breakeven point

$$R = (n - n_b)M$$

(Goldberg, 2006:183-184)

In Figure 4 the breakeven analysis is illustrated by a plot of daily revenue versus volume (number of installations). In this example, it can be clearly seen that at a fixed cost of R325 the breakeven point (n_b) is at 3 installations with zero profit. If 15 installations are made, the daily profit is approximately R1000.

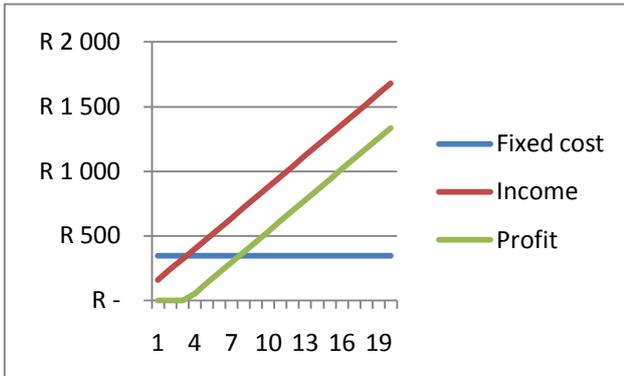


Figure 4: Plot of revenue versus volume

However, this linear model can only be used for budgeting if the installations are done by an experienced team, where the all the installation times are minimal. Measures of uncertainty of the duration of an activity is given by the variance,

$$\sigma^2 = \left[\frac{b-a}{6} \right]^2$$

Where

σ = standard deviation (one sixth of the beta

range) = $\frac{b-a}{6}$

a = optimistic time estimate

b = pessimistic time estimate

(Meredith & Mantel, 2003:394).

Consider a project that requires 100 installations to be completed and through experience, a typical installation takes 1 hour of direct labour. If the labour rate is R20 per hour, and benefits equal 28% of the wage rate, the estimated labour cost would be $(1.28)(R20/hr)(100 \text{ units})(1hr/unit)=R2560$.

When so-called learning rates are included in this estimate, the above result would be an underestimate. Human performance normally improves when a task is repeated. Each time the output doubles, the worker hours per unit decreases to a fixed percentage of the previous value. This percentage is called the learning rate.

If it requires 10 minutes to accomplish a task (produce a unit) for the first time it is attempted and only 8 minutes the second time, the learning rate is

80%. Similarly, the 4th unit (doubling) will be produced in 8 minutes x 0.8 = 6.4 minutes.

The time it takes to produce one unit of output (one installation) is given by

$$T_n = T_1 n^r \quad (4)$$

Where

T_n = the time required for the n^{th} unit of output

T_1 = the time for the initial unit of input

n = the total number of units to be produced

$$r = \frac{\log_e(\text{learning rate})}{\log_e 2}$$

The total time required to produce all units on a production run of size N is,

$$\text{Total time} = T_1 \sum_{n=1}^N n^r$$

(Meredith & Mantel, 2003:350).

Continuing with the example above, if it has been found that the time per installation is constant at 1 hour/installation after the completion of 50 installations, the time can now be calculate that it would have taken for the initial unit;

$$r = \frac{\ln 0.8}{\ln 2} = -0.322$$

After 50 installations

$$1 = T_1 (50)^{-0.322}$$

And the time taken for the first unit becomes

$$T_1 = 3.52 \text{ hr}$$

The total time for the installation of 100 units is now

$$\begin{aligned} \text{Total time} &= (3.52 \sum_{n=1}^{50} n^{-0.322}) + 50 \times 1 \text{ hr} \\ &= 120.81 \text{ hr} \end{aligned}$$

The estimated labour cost is then

$$1.28 \times R20 / \text{hr} \times 120.81 \text{ hr} = R3093$$

or 21% more than the initial estimate.

3.3 Budgeting

Money is the life blood of business and is spent either as capital expenditure or operating expenditure (Hunt, 1997:87). The sub-contractor in this case did not have funds for capital expenditure to acquire proper installation and safety equipment and expected an advance from the main contractor. This was an early indication that the sub-contractor project was heading for disaster. All projects are unique and their budgets are based on forecasts of resource usage and the associated costs. Therefore, estimating the cost for any project involves risk (Meredith & Mantel, 2003:337). Risks are significant with many challenges in project management, but at the end of the day with proper budgeting and project success, the rewards are obvious.

A budget is a written financial plan for the future. It sets a framework in order to make forecasts and sets goals for a specific period. There are various types; the master budget, sales budget, production budget, materials budget, labour budget, admin and overhead costs budget, profit budget, cash budget, financial budget, capital expenditure and equipment budget etc. The most important control measure in budgeting is measuring the actual cost against the budgeted cost. This exercises control over the budget and the cash flow.

The difference between the forecast profit and cash flow has the emphasis on when cash will be received and when cash payments are made. The cash flow budget is the main lifeline of the business. It helps to make early provision for cash shortages due to over-expenditure etc. On the other hand it allows cash planning to take place, where the investment of excess cash can be made etc.

Besides inadequate business skills, the other common shortcoming is the inability to manage credit and debt due to the misunderstanding of the concept of cash flow.

4. Training

At the 22nd AMEU Technical convention it was noted that "our present workforce is uneducated, ill trained and poorly skilled" (Ferrier, 2009:104). Salome Liebenberg, a sought after project co-ordinator and consultant revealed that many emerging black-owned companies do not have the infrastructure and resources to market themselves and complete projects without external assistance (Erasmus-Kritzinger, 2003: 444). This highlights the need to train project managers of SMME's in South Africa. According to the South African Association of Consulting Engineers, companies with a healthy training culture acquire added benefits such as improved quality, increased productivity, less wastage, more staff commitment and improved moral (Anon, 2007:9). According to Barbazette most adults learn best when they are actively involved in

the learning experience (Barbazette, 2006:5). This is beneficial since the project manager can build on past experiences. The problem however, is that many first experiences are done at the "deep end of the pool", with disastrous results. To prevent this from happening, trainees should be rated according to the following skill performances: quality, quantity, speed and sequence (Barbazette, 2006:170-172).

Since 2008, South African matriculants need to obtain a minimum of 40% in three subjects and 30% in three others in order to attain the new National Senior Certificate. In 2009, 43% of students dropped out before they reached Grade 12. According to the Department of Basic Education, of those writing the final exams, 49% have opted for Maths Literacy to capitalise on its practical orientation and possibly to avoid the more rigorous Mathematics. However, only 46% who wrote Mathematics in 2008 passed (Patin, 2009:21). This was a huge increase on the previous year. This led to doubts over whether it was pitched at the right level and whether those who enter the business and project management world are able to do straightforward calculations to find breakeven points for estimates, budgets, costing etc. Some even question whether maths or maths literacy is needed for basic education, where it will not be used by learners progressing to higher education where maths is not in the curriculum. It becomes even more worrying, since the 2009 national matric pass rate dropped by 2% compared to that of the previous year (Peyper, 2010:1).

Sector Education and Training Authorities (Setas) are responsible for the development and implementation of sector skills training with funding made available via an employer skill levy. A R2.4 billion fund was made available for training of workers by the labour minister, Membathisi Mdladlana, before the Setas moved from his ministry to the new higher education and training (HET) ministry, headed by Blade Nzimande. According to the labour committee chairman, Lumka Yengeni, the Construction Education and Training Authority (CETA) incurred R92.7 million in irregular expenditure during 2008 and is about to hire its third CFO in two years. According to CETA, it has R15m to train 3000 workers under their scheme (Mabanga, 2009: 23). This is proof that there are enough resources available for workforce training under HET.

According to Higher Education South Africa (HESA), there is a steady decline in the pass rate at universities since 2003. Interventions such as extended curriculum programs or national benchmarking tests to assess whether students are best suited for a specific field, can help with the problems in basic education. This is to make the transition from high school level to tertiary level easier. The significance of maths (with physical

science, accounting and agriculture) is critical to the economy of the country. Therefore companies should make full use of the services offered by Setas (now incorporated under DoE) that provide the necessary training.

World Wide Worx MD and principal researcher, Arthur Goldstuck pronounces that mentors contribute hugely to a business' success. Although these business coaches add enormous value to a business, only 18% of small businesses make use of them (Munshi, 2009: 26). Mentors can guide the owner of small businesses with proper management skills; such as skills in the development of optimal project plans, action plans and deliverable options etc. The mere fact that the Project Management Institute (PMI) was established in 1969 with the objective to initiate the areas of learning required for competent project managers, shows that there is a need for training in this area.

Another mechanism that will develop upcoming company staff, is training as per the requirements of ECSA. Mentoring is one of them.



Figure 5: Grant Louis, Project Manager of Silver Solutions, at the Langrug site

A success story, regarding skills transfer, is that of Grant Louis, an electrical engineering graduate and project manager of Silver Solutions. Under his leadership the Franschhoek electrification project was successfully completed. In Figure 5 he is inspecting and preparing a cherry picker in Langrug. He equipped many installers by means of on the job training.

5. The Influence of Black Economic Empowerment Compliance

Broad-Based Black Economic Empowerment (BBBEE) was initiated by government to improve the then existing biased and unfair Narrow-Based Black

Economic Empowerment (BEE). BEE led to the enrichment of only a minority of previously disadvantage in South Africa. Today the goal of Broad-Based Empowerment is to empower a much broader South African society. The problem with Narrow-Based empowerment was that measures were only taken of equity ownership and management representation.

According to Act 53 (2003) Codes of Good Practice for Black Economic Empowerment there are three enterprise sizes according to different sets of measurement criteria: Generic Enterprises, Qualifying Small Enterprises and Exempted Micro Enterprises. They are categorised as follows:

Generic Enterprises have a turnover of greater than R35 million. It is estimated that only 4% of South African Enterprises fall into this category. They must apply all seven pillars of the BBBEE (Code 000-700 of the act)

Qualifying Small Enterprises (QES) have a turnover between R5 million and R35 million. They apply code 000-800 to calculate their scorecards. QSE's can choose the best four of their seven elements, with each element accounting for 25% for their scorecard.

Exempted Micro Enterprises (EME's) have turnovers of less than R5 million. It is not necessary for EME's be rated, but they need to be able to provide reasonable evidence that they are EME's. If EME's are greater than 50% black owned they automatically qualify as contributors towards Preferential Procurement.

This means a newly registered black owned small business immediately qualify for contributors towards Preferential Procurement as an EME. They normally have less overheads than bigger companies, giving them the advantage to tender lower prices, plus the 100% scored for black ownership tremendously increases their chances of winning tenders.

The minister of trade and industry has published a sector code on black economic empowerment in terms of the BBBEE in Government Gazette 32305 on 5 June 2009. Companies are now invited to have their BBBEE Charter rating reflected on the Construction Industry Development Board (cidb) Register of Contractors if they are in possession of a BBBEE certificate. These certificates are issued by the rating agencies accredited by the South African National Accreditation System (SANAS). The BBBEE rating will be automatically removed from the cidb database after a year and needs to be updated by the company upon the certificate expiry date.

A survey done by Grant Thornton released in June 2009 confirmed that 63% of private businesses finally regard the Black Economic Empowerment (BEE) Compliance or BEE codes of good practice in the workplace important for winning business or tenders, especially from the state – many years after government first introduced it (Munshi, 2009:26). BEE Rating Solutions received its accreditation from the SANAS. According to their MD Johan du Toit, there is a steep rise in the demand for verification certificates from the small and medium-sized enterprise market.

BEE Verification Agency CEO Willem Mostert stated that in certain industries, government applies pressure – for example the construction industry - where the state is most likely the awarder of tenders. Although there are seven aspects to the code, emphasis is placed on ownership and management only – the neglected ones are; employment equity, skills development, preferential procurement, enterprise development and socioeconomic development. The DTI minister, Rob Davies, announced that only certificates issued by accredited BEE verification agencies will be valid from February 2010.

At the moment, government tender adjudicators give additional scores to black, female and disabled ownership of enterprises. This however, does not mean they are competent to effectively manage a project. Many emerging businesses win tenders because of their BEE status, but fail to produce due to inadequacies discussed.

An example is that of a small company that won a R5 million tender and after a few weeks, they found the owner alone on site, busy digging trenches. He did not want to “waste money” by employing additional labour. By that time he was so far behind schedule that the only way to save the project was to cancel the contract and award it to an established company. Another example is of a contractor who could not deliver on a first line maintenance contract because he did not have any vehicles, or financial resources to hire these. Another one did not have any cash flow to pay wages and his workers sabotaged the project. Then there is the case of a company that hired a digger loader for trenching, at a cost far exceeding the amount quoted to the main contractor. The list of similar examples is endless, with the result that all emerging applicants are assumed to have the same deficiencies.

6. Conclusion

According to the Real Economic Development affiliation of the Department of Economic Development and Tourism, the survival rate of small businesses in South Africa does not compare favourable to that of similar developing countries.

The failure of emerging companies is due to unprofitable quoted prices, technical inabilities and poor management. Financial problems and irrational decision making, whilst with their backs against the wall contribute to their failure. These companies would benefit tremendously from skills transfer if they could enter into a joint venture or partnership with established companies. Broad-based black economic empowerment need skills and capacity building in project management. With ECSA's requirements to provide staff with continuous professional development, financial rebates can be claimed for staff skills development through accredited training providers. This paper revealed the challenges and initiatives to overcome obstacles for emerging contractors, such as relevant training etc. and the need to create empowered project management forums. Established business forums (WECBOF, Small Business Forum, etc.) could be instrumental in leading the effort toward the development of skills in these areas.

Lack of formal training and little or no relevant experience in project management are reasons to drive the launch of these forums where experiences in project management can be discussed. Besides training, upcoming companies also need mentors to guide them to ensure long term success. One of the biggest stumbling blocks that inhibit the development of upcoming companies is the lack of synergy between them and established ones.

7. Acknowledgement

The authors would like to thank Messrs. Floris Koeglenberg and Martin Slabber of Stellenbosch Municipality for their insights into the various types of electrification projects and contributions to the compilation of this paper. The main electrical contractor, Silver Solutions 1429, also gave their co-operation in sharing the obstacles encountered with their sub-contractors.

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