DETEMINANTS OF QUALITY CERTIFICATION

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ABSTRACT
Quality certification may be considered as a source of knowledge. On the other hand knowledge is a beneficiary investment that enterprises would likely invest. The purpose of the study is to identify possible determinants of quality certification in enterprises in a sample of approximately 9700 enterprises. We estimate a nonlinear model using MLE method and find that large enterprises and enterprises that introduce a new product have higher probability to hold a quality certification. Also we find that facing an obstacle in access to financing may be an impediment to having a quality certification.

Keywords: quality certification, SME, predictors, performance

1. INTRODUCTION

The purpose of the study is to identify possible determinants of quality certification in enterprises in a sample of approximately 9700 enterprises. We estimate a nonlinear model using MLE method and find that large enterprises and enterprises that introduce a new product have higher probability to hold a quality certification.

2. THEORY

Competition in the market in the era of globalization is increasing rapidly. One way how companies want to be competitive is having quality certification. The interest of companies obtaining quality certification is increasing and we want to determine what influences the decision of enterprises to have or have not a quality certification.

Lee (1998) note that quality certification can not be referee only to a specific industry. When comparing the size of companies that had quality certification in 1994 and 1996 they identify that the number of small companies that had quality certification was stable in both years while for large companies it increased rapidly (increased from 6% to 19%). According to their finding the SME in service sector and the firms in the construction sector were mainly driven by customers' demand to have a quality certification. A large number of respondents (68%) reported increased efficiency as a benefit from a quality certification.

Feng et al (2008) according to their frequency analysis 47% of the companies that had ISO certification where in the manufacturing and ISO 9000 certified less than 5% were large

companies. They find positive correlation between certification and operational performance and weak correlation with business performance. Also they find that there is correlation between size and performance. They note that medium and large companies benefit more from quality certification. On the other hand Dick (2000) note that quality certification does not persistently lead to better performance and also provide literature review on the link between quality certification and performance.

Hears et al (2002) tend to explain the expected link between ISO quality certification in one hand to business performance respectively to profitability and note that there is lack of empirical evidence confirming the same. They find empirically that noncertified firms have lower level of profitability than certified firms but they note that this may be due to the fact that more profitable firms tend to acquire quality certification. Additionally they do not find evidence that after having a quality certification there is increase in profitability or growth of sales. All these may suggest that there is need also in empirical evidence of what determines having a quality certification before concluding whether quality certification leads to improved profitability or more profitable firms tend to pursue quality certification.

Terlak and King use a sample of US manufacturing (they use the capacity level for the analysis) to find empirical evidence on the effect of quality certification using GEE model. They note that quality certification may work as signaling to differentiate companies. Their results suggest that certified facilities generate 1, 3% higher production growth per year than none certified ones and also find significant and positive effect on production growth for interaction variables ISO Quality and industry size; ISO quality and R&D; ISO 9000 and advertising industry. They also add that quality certification reduces the information asymmetry among buyers.

3. RESULTS

The purpose of the study is to determine the predictors for quality certification while we suggest future research predictors of successful implementation of the quality certification. Thus we note that having a quality certificate is not an assurance for implementation of the same.

The sample data is from BEEPS4 questionnaire. The model we estimate is:

Quality certificate= f (access to finance, innovation, power outages, SME)

Table 1. Logit estimate

Quality certification	Coefficient	Stan. Error	Z	P>|z|	95% confidence intervals	95% confidence intervals
Access to finance	-.179	.047	-3.74	.000	-.273	-.085
Innovation	.515	.049	10.47	.000	.418	.611
SME	-1.205	.050	-24.0	.000	-1.304	-1.107
power out	-.027	.049	-0.55	.579	-.124	.069
_cons	-.374	.057	-6.56	.000	-.486	-.262

Where quality certificate=1 if the enterprise has a quality certification and equals 0 if otherwise. As a source of knowledge quality certification is important for enterprises. Regarded to innovation we use the definition as whether a new product is developed or not thus we do not look at the broader definition of innovation. Access to finance- we also check

whether financing is an impediment to quality certification. We control how access to finance being an obstacle impacts the probability to have a quality certificate compared to not facing obstacles on access to finance. SME is controlling for the size of the enterprises using a dummy. We used the conventional classification of small, medium and large enterprises and compare small and medium with large enterprises. We estimate a nonlinear model using MLE and attain the following results:

The Pearson chi2 suggest that we have a correctly specified model. According to table 1 statistically significant variable in conventional levels are access to finance, innovation and size while power outages results as statistically insignificant. Furthermore we suggest that introducing a new product increases the probability to have a quality certification. The sign of the size variable suggest that small and medium enterprises have lower probability to have a quality certification compared to large enterprises. Finally enterprises that face obstacles in access to finance compared to the ones that don't are less probable to have a quality certification.
We have also estimated the marginal effects and present them in the table below:

Table 2. Marginal effects

Quality certification	dy/dx	Stan. Error	Z	P>|z|	95% confidence intervals	95% confidence intervals	X
Access to finance	-.033	.009	-3.74	.000	-0.514	-0.16	.512
Innovation	.095	.0089	10.7	.009	.078	.113	.545
SME	-.253	.0111	-22.86	.000	-.275	-.231	.743
Power outages	-.005	.009	-0.56	.579	-.023	.013	.379

Accordingly the results suggest that enterprises that do face access to finance obstacles have lower probability (-0.33) to have a quality certification compared to the ones that do not face obstacles; small and medium enterprises have lower probability (-.253) to hold a quality certification compared to large enterprises and enterprises introducing a new product have higher probability (.093) to hold a quality certification.

4. CONCLUSION

Quality certification may appear as signaling for differentiating companies from the view point of customers. The theory states that there is expected potential positive link between quality and performance but the empirical evidence is rather sparse. Yet comparison of studies remains anecdote because of the definition used for quality, performance and there are still open questions that should be answered empirically. We identified some of the determinants of having quality certification and according to the results we suggest that it rather may be the case that successful firms apriori choose to have quality certification than the aposterior result of having a quality certification will be increased performance- at least in the short run.

5. REFERENCES:

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