

MASTER

Effects of foreign and domestic innovative partnerships on South African firms a longitudinal study on innovative partnerships in South Africa

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Effects of foreign and domestic
innovative partnerships on South
African firms

A longitudinal study on innovative partnerships in South Africa

Master's thesis

Ronnie van den Thillart

**NIET
UITLEENBAAR**

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Prof. Dr. M.W. Pretorius

Date : Monday, June 13th 2005

Effects of foreign and domestic innovative partnerships on South African firms

Master's thesis

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Preface

In September 2001 I started my study of technological innovation sciences at the University of Technology in Eindhoven. In May 2004 the opportunity arose to complete my study at the university of Pretoria in South Africa, and I jumped to that opportunity. The close cooperation between the Universities of Eindhoven and the University of Pretoria in South Africa made this possible.

This thesis is a follow-up study of the South African Innovation Survey (SAIS) that was conducted in 2001 by the department of technology and innovation policy at the University of technology in Eindhoven and the department of engineering and technology management at the University of Pretoria. This survey was initiated to get a representative nationwide overview of the innovative behaviour and performance of South African firms in Manufacturing and Services in the period 1998-2000. This thesis is only a part of a larger follow-up study on industrial innovation in South Africa. This thesis explores the effects of national and international partnerships on innovative and economic performance of South African firms. Two other studies cover the related subjects of: Innovation and job creation and Innovation and business performance. Data collection in South Africa and background studies of the South African economy were done in collaboration with Rob Westerhuis and Bernard de Veer. Therefore chapters 2 and 3 have been written in cooperation with Rob Westerhuis and Bernard de Veer.

The subject of the thesis did not change much during the course of the research. Clarifying what the effects of national and international partnerships are, has always been main goal of this report. This question came to light when SAIS 2001 revealed that South African firms have many international alliances and little national alliances. Looking at causes for the high number of international alliances was first considered. Recent research by Roy Clerx however clarified much concerning causes for the high number of international alliances. Therefore this study will look at the effects of national and international alliances.

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Executive Summary

South Africa is a country with an economy that is basically two-layered. On one hand South Africa competes with developed countries, but on the other hand large parts of the country have a very basic structure. South Africa has lower resources per capita than developed countries and shortages and/or inadequacies in socio-economic infrastructure¹. Therefore it is regarded as a developing country. At least to some extent South Africa is dependent upon foreign technologies. Buys (2004) found that firms in the South African industry are predominantly involved in the improvement of products and processes using foreign technology. Furthermore, South Africa is characterized by (Rooks and Oerlemans, 2005): A poorly developed National System of Innovation (NSI) and problems in innovation projects due to a 'knowledge gap' or 'technology gap'.

In recent years there became a growing awareness in South Africa that innovation should be at the centre of attention for businesses and for policy strategies, to develop South African economy to higher levels (NRDS, 2002). Many economists view innovation as the driving force of a nation's economic development (e.g. Schumpeter, 1959; Porter, 1990). To get a representative overview of innovation in a broad sense the South African innovation Survey (SAIS) was conducted in 2001. The SAIS survey was based upon the European Community Innovation Survey or CIS, which makes comparisons possible.

The SAIS report found that innovating firms in South Africa are relatively strongly focused on international technology networks of partnerships and relatively weak on national technology networks of partnerships (Oerlemans, Pretorius, Buys and Rooks, 2003). The survey revealed that 26% of South African innovating firms have partnerships with foreign firms, whereas 18% of the innovating firms have partnerships with domestic firms. The strong focus on international partnering is a distinctive aspect of South African firms and forms the basis for this research. Little is known about the effects of the relatively high number of international partnerships and relatively low number of national partnerships. This study takes a closer look at the effects of national and international innovative partnerships and is therefore a follow up research of the SAIS survey.

A short version of the SAIS 2001 survey was repeated in 2004 under the name "SAIS 2001 revisited". The same firms of the SAIS 2001 survey were asked for their cooperation a second time. The response was high, 97,7% of the firms responded. The choice for a telephonic survey, to positively influence response, turned out to be the right one. 80% of the responses were contributed by the telephonic survey. And 17,7% by e-mail and fax surveys. Only 13 of 601 firms indicated that they did not want to cooperate.

Findings illustrate that South African partnerships have a significant negative effect on growth in economic- and innovative performance measured by respectively the total sales growth and the innovative sales growth. Foreign partnerships seem to have no effect at all on economic- and innovative performance. This is a surprising finding. Empirical studies have shown that partnerships affect cooperative performance and contribute to a firm's growth (Powell, Koput, Smith-Doerr, 1996), speed rates of technological innovations (Hagedoorn and Narula 1999), prevent mortality (Singh and Mitchell, 1996) and effect cooperate reputations (Stuart, 1998). It was found that more international active firms (50% exports and /or 50% inter-firm research collaboration with overseas firms) are more innovative and in terms of

¹ <http://www.agreement.co.za/export%20of%20build.html>

growth in turnover internationally focused firms also perform better (Keeble et al, 1998). Literature illustrates that partnerships in general, and foreign innovative partnerships in particular, have a positive effect on economic and innovative performance of firms. South African and to a lesser extend foreign innovative partnerships do not have the expected positive effect known from partnership literature. Especially the negative effects of South African alliances are surprising. *The conclusion is reached that South African partnering and to a lesser extend foreign partnering are neither favourable to South African firms.* An interesting quote confirming this finding, of a manager of a well known South African firm, is that: *"We (South Africa) will never win the war, because South Africans can't work together!"* (Source: Interview nr.3 table 7 Clerx, 2005)

Why do we find evidence showing that South African partnerships do not generate the expected results? Only limited explanations for the inability to cooperate can be given without further research. The following text will focus on some interesting points, mentioned by respondents and interviewees in the research by Roy Clerx (Clerx, 2005). The first explanation for the negative effects of partnerships on economic and innovative performance could be that the negative aspects of partnerships dominate in South Africa when compared to a more independent approach. The second explanation for the poor performance of partnerships could simply be a lack of experience in partnering. Traditionally South African firms had the tendency to do everything themselves (Clerx, 2005). Changes in this 'do-it-yourself' mentality could have occurred only from the changes in the governmental system of 1994, meaning that partnering has been a part of the strategy of many firms for only 10 years now. From this viewpoint South African firms simply have to learn how to use partnerships effectively. The third explanation for the negative performance of partnerships in South Africa could have been influenced by the incentive to 'cheat' in cooperative ventures, perhaps caused by a breakdown in trust. If both partners in the partnerships are opportunistic in their behaviour they will both attempt to pursue their own interests at the expense of others. However this opportunistic behaviour of both parties will result in unfavourable outcomes for both partners in the partnership. If opportunistic behaviour of firms within partnerships is more common in the South African context, the overall performance of the partnership will be negatively influenced.

More research is necessary to explain why South African partnering and to a lesser extend foreign partnering are neither favourable to South African firms. Above preliminary explanations are only first steps in explaining this phenomenon.