



# EXPORT PROMOTION

A Decision Support Model Approach

Editors

**LUDO CUYVERS  
WILMA VIVIERS**







# EXPORT PROMOTION

A Decision Support Model  
Approach

**LUDO CUYVERS &  
WILMA VIVIERS**

---

**EDITORS**



Export Promotion:

*A Decision Support Model Approach*

Published by SUN MeDIA MeTRO under the SUN PReSS imprint

All rights reserved.

Copyright © 2012 SUN MeDIA MeTRO and the authors

No part of this book may be reproduced or transmitted in any form or by any electronic, photographic or mechanical means, including photocopying and recording on record, tape or laser disk, on microfilm, via the Internet, by e-mail, or by any other information storage and retrieval system, without prior written permission by the publisher.

ISBN 978-0-9870096-3-0

Cover & text design by Maryke Venter

Page layout by Christine van Deventer

Set in 9/14 Humnst777 BT

Academic, professional and reference works are published under this imprint in print and electronic format. This publication may be ordered directly from [www.sun-e-shop.co.za](http://www.sun-e-shop.co.za).

[www.africansunmedia.co.za/www.sun-e-shop.co.za](http://www.africansunmedia.co.za/www.sun-e-shop.co.za)

# Contents

List of figures .....	i
List of tables .....	iii
Annexures .....	vii
Abbreviations .....	ix
Contributors .....	xi
Foreword .....	xv
Acknowledgements .....	xvii
<b>Chapter 1   Introduction <i>Ludo Cuyvers &amp; Wilma Viviers</i></b> .....	1
References .....	7
<b>Part 1   The development of a decision support model for export promotion ...</b>	8
<b>Chapter 2   The political economy of public export promotion: the case of the Flemish region, Belgium <i>Ludo Cuyvers</i></b> .....	11
2.1 Introduction .....	11
2.2 A simple game theoretic illustration of export promotion .....	13
2.3 Export promotion in the Flemish region of Belgium: political and economic considerations .....	17
2.4 The DSM researcher as communicator in the export promotion game ...	22
2.5 Some conclusions .....	23
References .....	25
<b>Chapter 3   Overview of international market selection methods <i>Ermie Steenkamp, Wilma Viviers &amp; Ludo Cuyvers</i></b> .....	27
3.1 Introduction .....	27
3.2 Categorisation of international market selection methods .....	27
3.3 Country-level market estimation methods .....	30
3.3.1 Decision support model (DSM) .....	31
3.3.2 Green and Allaway's shift-share model .....	33
3.3.3 Russow and Okoroafo's global screening model .....	35
3.3.4 Papadopoulos <i>et al.</i> 's trade-off model .....	36
3.3.5 The International Trade Centre's multiple criteria method .....	40
3.3.6 Assessment of export opportunities in emerging markets .....	42
3.3.7 The gravity model .....	43
3.3.8 Export Development Canada's Trade Opportunity Matrix .....	46
3.4 Assessment of country-level market estimation methods .....	48
3.5 Conclusion .....	48
References .....	49

<b>Chapter 4   The methodology of the decision support model (DSM)</b>	
<i>Ludo Cuyvers, Ermie Steenkamp &amp; Wilma Viviers</i> .....	53
4.1 Introduction .....	53
4.2 The Walvoord fundamental framework of the DSM .....	53
4.3 The sequential filtering process of the DSM .....	56
4.3.1 Filter 1: Identifying preliminary market opportunities .....	56
4.3.1.1 Filter 1.1: Political and commercial risk assessment .....	56
4.3.1.2 Filter 1.2: Macro-economic size and growth .....	59
4.3.2 Filter 2: Identifying possible opportunities .....	60
4.3.3 Filter 3: Identifying probable and realistic export opportunities .....	65
4.3.3.1 Filter 3.1: Degree of import market concentration .....	65
4.3.3.2 Filter 3.2: Trade barriers .....	67
4.3.4 Filter 4: Final analyses of opportunities .....	68
4.4 Support from the international market selection literature for the different filters of the DSM .....	71
4.5 Refinements to the DSM methodology .....	73
4.5.1 Including GDP growth and GDP per capita growth in Filter 1.2 .....	73
4.5.2 Using HS 6-digit product data .....	74
4.5.3 Calculating a potential export value for each selected product-country combination .....	74
4.5.4 Taking the exporting country's production capability into consideration with RCA .....	75
4.5.5 Determining a new method of measuring the market accessibility of South Africa in the different product-country combinations (Filter 3.2) .....	75
4.6 Conclusion .....	77
References .....	78
<b>Part II   Applications of the DSM in selected countries</b> .....	81
<b>Chapter 5   Belgium's export opportunities and export potentials in the world:     A quantitative assessment using the DSM approach</b>	
<i>Ludo Cuyvers, Ermie Steenkamp &amp; Wilma Viviers</i> .....	83
5.1 Introduction .....	83
5.2 Belgium's preliminary market opportunities .....	84
5.3 Belgium's possible export opportunities .....	86
5.4 Belgium's realistic export opportunities according to import market concentration .....	87
5.5 Belgium's realistic export opportunities based on import market restrictions .....	90
5.6 The categorisation of Belgium's realistic export opportunities according to import market characteristics and import market share ....	91
5.7 Top 30 of Belgium's realistic export opportunities .....	97
5.8 An analysis of Belgium's export potential per broad product category and import region .....	100
5.9 Conclusions .....	104
References .....	107



<b>Chapter 6   Realistic export opportunities and export potentials: a comparison using DSM results for Belgium, South Africa and Thailand</b>	
<i>Ludo Cuyvers, Ermie Steenkamp, Wilma Viviers &amp; Riaan Rossouw</i> .....	109
6.1 Introduction .....	109
6.2 Comparison of the REOs identified for Belgium, South Africa and Thailand .....	111
6.2.1 Comparison based on the distribution of the number of potential REOs according to relative export market position and import market characteristics .....	111
6.2.2 Comparison based on the distribution of the estimated values of the potential REOs according to relative export market position and import market characteristics .....	114
6.2.3 Comparison based on the product distribution of the potential and actual REOs .....	116
6.2.4 Comparison of actual and potential REOs .....	118
6.2.5 Comparison based on the level of development of the importing countries and on the geographical distribution of the REOs .....	120
6.2.5.1 Comparison based on the level of development of the importing countries for potential and actual REOs of Belgium, South Africa and Thailand .....	120
6.2.5.2 Comparison based on the geographical distribution of potential and actual REOs of Belgium, South Africa and Thailand separately .....	122
6.2.6 Comparison based on the geographical distribution of potential and actual REOs between Belgium, South Africa and Thailand .....	125
6.2.7 Comparison of actual and potential REOs according to geographical region .....	126
6.3 Conclusions .....	128
References .....	130
<b>Chapter 7   The identification of export opportunities for South Africa in the rest of the African content</b>	
<i>Ermie Steenkamp &amp; Wilma Viviers</i> .....	131
7.1 Introduction .....	131
7.2 Method .....	131
7.3 Results .....	132
7.3.1 Regional results of the Africa DSM .....	135
7.3.2 Country-level results of the Africa DSM .....	139
7.3.3 Sector-level (HS 2-digit level) results of the Africa DSM .....	140
7.3.4 Product and product-country level results of the Africa DSM .....	143
7.3.5 Focused export promotion by export promotion organisations into Africa ..	150
7.4 Conclusions .....	153
References .....	154

<b>Part III   Strategic use of the DSM methodology and results</b> .....	155
<b>Chapter 8   The assessment of public export activities using DSM results: the case of Belgium <i>Ludo Cuyvers &amp; Michel Dumont</i></b> .....	157
8.1 Introduction .....	157
8.2 Realistic export opportunities for Belgium .....	159
8.3 The export promotion activities of the Belgian public export promotion organisations .....	162
8.4 General assessment of the export promotion activities in Belgium, based on the BLEU's realistic export opportunities .....	164
8.5 Correlation between the export promotion activities of Export Vlaanderen, AWEX and Brussels Export, and the corresponding product-country combinations under the assumption of geographical focus .....	171
8.6 Conclusion .....	176
References .....	178
Annexures .....	179
<b>Chapter 9   Developing strategies for export promotion using a decision support model: South African case studies</b> <i>Ludo Cuyvers, Wilma Viviers, Noleen Sithole-Pisa &amp; Marié-Luce Kühn ...</i>	183
9.1 Introduction .....	183
9.2 The identification and categorisation of realistic export opportunities using a decision support model (DSM) .....	184
9.3 Defining export promotion strategies (EPS) according to the DSM results .....	186
9.4 South African case studies .....	190
9.4.1 Macadamia nuts to Germany .....	190
9.4.2 Extruders for rubber and plastic to Tunisia .....	194
9.4.3 Articles of jewellery to the United Kingdom .....	197
9.5 Conclusions .....	201
References .....	202
<b>Chapter 10   Adaptation and application of the DSM for services in South Africa</b> <i>Sonja Grater &amp; Wilma Viviers</i> .....	205
10.1 Introduction .....	205
10.2 Understanding services and the GATS negotiations .....	206
10.3 Export promotion of services in South Africa .....	209
10.4 The development of a decision support model (DSM) for services .....	210
10.4.1 Decision support model for services: Filter 1 .....	210
10.4.2 Decision support model for services: Filter 2 .....	211
10.4.3 Decision support model for services: Filter 3 .....	212
10.4.3.1 Filter 3.1 of the DSM for services .....	212
10.4.3.2 Filter 3.2 of the DSM for services .....	214
10.4.3.3 Final Filter 3 selection .....	217
10.4.4 Decision support model for services: Filter 4 .....	217

10.5 A summary of the DSM for services for South Africa .....	218
10.6 An analysis of the results of the DSM for services .....	219
10.6.1 Results according to cell classifications .....	219
10.6.2 Results according to region, country and sector .....	221
10.7 Conclusion .....	224
References .....	226
<b>Chapter 11   Exporter's information requirements: competitive intelligence as an export promotion instrument</b>	
<i>Marié-Luce Kühn &amp; Wilma Viviers</i> .....	229
11.1 Introduction .....	229
11.2 Exporters' need for information .....	230
11.3 Types of export information .....	231
11.4 Competitive Intelligence (CI) .....	234
11.4.1 Definition of Competitive Intelligence (CI) .....	234
11.4.2 The Competitive Intelligence cycle .....	235
11.4.2.1 Planning and focus .....	236
11.4.2.2 Collection .....	237
11.4.2.3 Analysis .....	238
11.4.2.4 Communication .....	238
11.4.2.5 Process and structure .....	239
11.4.2.6 Organisational awareness and culture .....	239
11.4.2.7 Skills .....	239
11.5 CI use according to size and stages of exports .....	240
11.5.1 CI and size of exporters .....	240
11.5.2 CI and stage of exports .....	243
11.6 Conclusion .....	245
References .....	246
<b>Chapter 12   Conclusions and agenda for further research</b>	
<i>Ludo Cuyvers &amp; Wilma Viviers</i> .....	252
<b>Index</b> .....	257



## List of figures

<b>Figure 2.1.</b> Game between EPO and SO about the organisation of international trade missions .....	14
<b>Figure 3.1.</b> Categorisation of the international market selection literature .....	28
<b>Figure 3.2.</b> Papadopoulos <i>et al.</i> 's (2002) trade-off model .....	36
<b>Figure 3.3.</b> Two-dimensional matrix for plotting countries in Papadopoulos <i>et al.</i> 's (2002) trade-off model .....	39
<b>Figure 4.1.</b> Walvoord's model for selecting foreign markets .....	54
<b>Figure 4.2.</b> Sequence of filters in the DSM .....	57
<b>Figure 5.1.</b> Determining the Alpha Value for GDP and GDP per capita in Filter 1 .....	85
<b>Figure 5.2.</b> Determining the Alpha value for HH concentration index in Filter 3 .....	89
<b>Figure 5.3.</b> The filtering process of Belgium's realistic export opportunities .....	92
<b>Figure 7.1.</b> Selection of realistic export opportunities for South Africa in Africa .....	133
<b>Figure 7.2.</b> Regional distribution of export opportunities in Africa: share in total number of opportunities .....	138
<b>Figure 7.3.</b> Regional distribution of export opportunities in Africa: share in total potential export value .....	136
<b>Figure 7.4.</b> Regional distribution of South Africa's actual exports to Africa .....	137
<b>Figure 7.5.</b> Potential export value realised in actual export values per African region (US\$ thousand) .....	138
<b>Figure 7.6.</b> Comparison of potential export values per product group in Africa (HS 2-digit level) (US\$ thousand) .....	141
<b>Figure 7.7.</b> Potential export value realised in actual export values per product group in Africa (US\$ thousand) .....	142

<b>Figure 7.8.</b> Potential export values of the different product groups per African region (US\$ thousand) .....	143
<b>Figure 8.1.</b> Results of the filtering sequence of the decision support model .....	161
<b>Figure 8.2a.</b> Spearman correlation coefficients between the export promotion activities of Export Vlaanderen and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	169
<b>Figure 8.2b.</b> Spearman correlation coefficients between the export promotion activities of AWEX and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	169
<b>Figure 8.2c.</b> Spearman correlation coefficients between the export promotion activities of Brussels Export and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	170
<b>Figure 8.3a.</b> Spearman correlation between export promotion activities of Export Vlaanderen and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	175
<b>Figure 8.3b.</b> Spearman correlation between export promotion activities of AWEX and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	175
<b>Figure 8.3c.</b> Spearman correlation between export promotion activities of AWEX and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	176
<b>Figure 9.1.</b> Export promotion instruments according to concentration and accessibility of the import market.....	190
<b>Figure 10.1.</b> A summary of the application of the DSM for services for South Africa .	219
<b>Figure 11.1.</b> The Competitive Intelligence cycle .....	236

## List of tables

<b>Table 3.1.</b> Papadopoulos <i>et al.</i> 's (2002) trade-off model .....	37
<b>Table 4.1.</b> Country X's risk ratings .....	59
<b>Table 4.2.</b> Country X's transformed risk ratings .....	59
<b>Table 4.3.</b> Illustration of cut-off points for short- and long-term growth .....	63
<b>Table 4.4.</b> Illustration of cut-off points for import market size .....	64
<b>Table 4.5.</b> Categorisation of product-country combinations in Filter 2 .....	65
<b>Table 4.6.</b> Final categorisation of realistic export opportunities .....	70
<b>Table 4.7.</b> Other literature supporting the use of the DSM variables .....	71
<b>Table 5.1a.</b> Distribution of Belgium's potential realistic export opportunities according to relative market position and market characteristics .....	93
<b>Table 5.1b.</b> Distribution of Belgium's realistic export opportunities with $RCA \geq 0.7$ , according to relative market position and market characteristics .....	95
<b>Table 5.1c.</b> Distribution of the estimated US\$ values (x1,000) of Belgium's potential realistic export opportunities according to relative market position and market characteristics .....	96
<b>Table 5.2.</b> Top 30 Belgian products according to potential export value .....	98
<b>Table 5.3a.</b> Belgium's REOs per broad product category .....	100
<b>Table 5.3b.</b> Belgium's REOs per region in the world .....	102
<b>Table 5.4.</b> Comparative country ranking of 2008 and 2003 according to number of REOs .....	103
<b>Table 6.1a.</b> Distribution of Belgium's potential realistic export opportunities according to relative market position and market characteristics .....	111
<b>Table 6.1b.</b> Distribution of South Africa's potential realistic export opportunities according to relative market position and market characteristics .....	112

<b>Table 6.1c.</b> Distribution of Thailand’s potential realistic export opportunities according to relative market position and market characteristics .....	113
<b>Table 6.2a.</b> Distribution of the estimated US\$ values of Belgium’s potential realistic export opportunities according to relative market position and market characteristics .....	114
<b>Table 6.2b.</b> Distribution of the estimated US\$ values of South Africa’s potential realistic export opportunities according to relative market position and market characteristics .....	114
<b>Table 6.2c.</b> Distribution of the estimated US\$ values of Thailand’s potential realistic export opportunities according to relative market position and market characteristics .....	115
<b>Table 6.3a.</b> Distribution of the potential realistic export opportunities of Belgium, South Africa and Thailand based on product (HS 2 digit) .....	116
<b>Table 6.3b.</b> Distribution of the actual realistic export opportunities of Belgium, South Africa and Thailand based on product (HS 2 digit) .....	117
<b>Table 6.4.</b> Actual as compared to potential realistic export opportunities of Belgium, South Africa and Thailand based on product (HS 2 digit) .....	119
<b>Table 6.5a.</b> Potential REOs of Belgium, South Africa and Thailand according to the level of development of the importing countries .....	121
<b>Table 6.5b.</b> Actual REOs of Belgium, South Africa and Thailand according to the level of development of the importing countries .....	121
<b>Table 6.6a.</b> Belgium’s potential and actual REOs according to region .....	122
<b>Table 6.6b.</b> South Africa’s potential and actual REOs according to region .....	123
<b>Table 6.6c.</b> Thailand’s potential and actual REOs according to region .....	124
<b>Table 6.7.</b> Potential degree of utilisation of REOs according to region .....	127
<b>Table 7.1.</b> Number of realistic export opportunities in Africa according to South Africa’s relative market share and the importers’ market characteristics ..	134



<b>Table 7.2.</b> Potential export values of therealistic export opportunities in Africa according to South Africa's relative market and the importers' market characteristics (thousands of US\$) .....	135
<b>Table 7.3.</b> Top 20 African countries based on total export potential values .....	139
<b>Table 7.4.</b> Potential export value realised in actual export values for export opportunities identified per HS 2-digit product group in Africa .....	141
<b>Table 7.5.</b> Top 50 products with the highest export potential for South Africa in Africa .....	143
<b>Table 7.6.</b> Top 50 product-country combinations in Africa .....	146
<b>Table 7.7.</b> Top 50 African product-country combinations in Cells 11 to 15 .....	150
<b>Table 8.1.</b> Distribution of the realistic export opportunities 2000-2003 with respect to the relative BLEU market share and import market characteristics .....	160
<b>Table 8.2a.</b> Spearman correlation coefficients between the export promotion activities of Export Vlaanderen and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	165
<b>Table 8.2b.</b> Spearman correlation coefficients between the export promotion activities of AWEX and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	166
<b>Table 8.2c.</b> Spearman correlation coefficients between the export promotion activities of Brussels Export and all realistic export opportunities, SITC product groups (2 digit), by country (1999-2003) .....	167
<b>Table 8.3a.</b> Spearman correlation between export promotion activities of Export Vlaanderen and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	172
<b>Table 8.3b.</b> Spearman correlation between export promotion activities of AWEX and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	173
<b>Table 8.3c.</b> Spearman correlation between export promotion activities of Brussels Export and the corresponding realistic export opportunities, SITC product groups (2 digit) by country (1999-2003) .....	174

<b>Table 9.1.</b> Categorisation of the 2007 REOs of South Africa according to South Africa's market share and import market characteristics (number of REOs) .....	185
<b>Table 9.2.</b> Export promotion strategies categorisation based on REOs .....	188
<b>Table 10.1.</b> GATS modes of supply .....	208
<b>Table 10.2.</b> Example of a schedule of GATS commitments .....	215
<b>Table 10.3.</b> Cell classification for the DSM for services .....	218
<b>Table 10.4.</b> Cell classifications of REOs based on the total import demand for each export opportunity in USD .....	220
<b>Table 10.5.</b> Geographical distribution of export opportunities .....	221
<b>Table 10.6.</b> Top 20 services sectors according to the number of export opportunities .....	222
<b>Table 10.7.</b> Top 20 country-services combinations according to the total import demand .....	223
<b>Table 11.1.</b> Types of exporter information .....	232

## Annexures

<b>Annex 8.1.</b> Export opportunities according to the normative model (SITC 2-digit) ...	179
<b>Annex 8.2.</b> Activities Export Vlaanderen (SITC 2-digit) .....	181



## Abbreviations

ASEAN: Association of Southeast Asian Nations

AU: African Union

AWEX: Agence wallonne à l'Exportation et aux Investissements Etrangers

B2B: Business-to-business

BDBH: Belgiesche Dienst voor de Buitenlandse Handel

BGA: Bundesverband des Deutschen- und Aussenhandels (e.v.)

BI: Business Intelligence

BIS: Business, Innovation and Skills

BLEU: Belgium-Luxembourg Economic Union

BRIC: Brazil, Russia, India and China

BSTC: Bilateral Scientific and Technological Co-operation

CBI: Centre for the Promotion of Imports from Developing Countries

CDC: Consultancy Development Centre

CEEC: Central and Eastern European Countries

CI: Competitive Intelligence

CV: Critical Value

DFA: Department of Foreign Affairs

DSM: Decision Support Model

DTI: Department of Trade and Industry

EBOPS: Extended Balance of Payments for Services

EMIA: Export Market and Investment Assistance

EPO: Export promotion organisation

EPRG: Export promotion research group

EPS: Export promotion strategies

EU: European Union

FAO: Food and Agriculture Organisation

FAS: Foreign Agricultural Service

FDI: Foreign Direct Investment

FER: Foreign Economic Representatives

FIT: Flanders Investment and Trade

FWO: Fonds Wetenschappelijk Onderzoek

GATS: General Agreement on Trade in Services

GATT: General Agreement on Tariffs and Trade

GDP: Gross Domestic Product

GNI: Gross National Income

GNP: Gross National Product

HS: Harmonised System

ICTSD: International Centre for Trade and Sustainable Development

IMF: International Monetary Fund	SAMAC: South African Macadamias Growers' Association
ITC: International Trade Centre	SARB: South African Reserve Bank
ITED: International Trade and Economic Development	SD: Services Demanded
ITPC: Investment and Trade Policy Centre	SI: Specialisation Index
JCSA: Jewellery Council of South Africa	SITC: Standard International Trade Classification
LPI: Logistics Performance Index	SME: Small- and Medium-sized Enterprises
MA: Market Accessibility	SO: Sectoral Organisation
MNC: Multi-national Company	SP: Services Produced
NEPAD: New Partnership for Africa's Development	SSAS: Sector-Specific Assistance Scheme
NIC: New Industrialising Countries	STATSSA: Statistics South Africa
NRF: National Research Foundation	TISA: Trade and Investment South Africa
NTB: Non-tariff Barriers	TOM: Trade Opportunity Matrix
NWU: North-West University	TPSF: Trade Policy Strategy Framework
OECD: Organisation for Economic Co-operation and Development	UN: United Nations
ONDD: Office National du Dueroire	UNCTAD: United Nations Conference on Trade and Development
OSI: Openness for Services Imports	VDBH: Vlaamse Dienst voor de Buitenlandse Handel
REO: Realistic Export Opportunity	WTO: World Trade Organisation
RCA: Revealed Comparative Advantage	
SACEEC: South African Capital Equipment Export Council	
SACU: Southern African Customs Union	
SADC: Southern African Development Community	

## Contributors

LUDO CUYVERS is emeritus professor of the University of Antwerp, Belgium, where he is still Director of the Centre for ASEAN Studies, and extraordinary professor at the North-West University (Potchefstroom campus), South Africa. He received his PhD degree in 1977 from the Faculty of Applied Economics, University of Antwerp, Belgium. Between 1989 and 2009 Ludo Cuyvers was a member of the Board of Directors of Office National du Ducroire (Brussels), the Belgian federal credit insurance company, and since 1991 he is member of Flanders Investment & Trade, the export and investment promotion organisation of the Flemish region of Belgium.



WILMA VIVIERS is a professor and the director of the School of Economics in the Faculty of Economic and Management Sciences at the North-West University (Potchefstroom campus). She received her PhD in 1988 from the former Potchefstroom University of CHE. She received the ITRISA fellowship award for her contribution to the promotion of South African exports, the “Women in Research” award from the South African Association of Women Graduates as well as the NRF rating for established researchers. In 2011 she received the Department of Science and Technology’s ‘Distinguished Women in Science’ runner-up award for her outstanding contribution to building South Africa’s scientific and research knowledge base.



ERMIE ANNELIES STEENKAMP is a senior lecturer at the School of Economics in the Faculty of Economic and Management Sciences at the North-West University (Potchefstroom campus). She has recently (2011) finished her PhD on identifying export opportunities for South Africa with special reference to Africa. Her research mainly focuses on export promotion in South Africa and the measurement of market accessibility for South Africa in different countries around the world. She is currently part of a project team for the North-West University to identify realistic export opportunities for South Africa on HS 6 digit level, using a Decision Support Model (DSM).



SONJA GRATER has been a lecturer in the School of Economics at the North-West University since 2008. She completed her PhD in International Trade at the North-West University (Potchefstroom campus) in 2011 on international trade in services. She has published an article from her Master's thesis and a book chapter on her current work on services trade. She has also been involved in several conference presentations. She gained practical experience in the logistical environment while working in the freight forwarding industry for four years.



MARIÉ-LUCE KÜHN is a director and co-founder of IBIS. She has a distinguished career in competitive intelligence (CI) and knowledge building. Marié-Luce has widely published on CI. She participated in international research teams into the CI practices in various countries and is member of the Export Promotion Research Group of the North-West University (NWU). At present she is involved in CI training and developing CI capabilities in companies including tracking and scanning competitive forces for a variety of companies in various industries. Marié-Luce holds a PhD in International Trade from the NWU (Potchefstroom campus).



RIAAN ROSSOUW is a micro-economist with more than eight years of consulting, research and teaching experience. He has wide-ranging experience in most sectors and overall economic and development issues. His research interests include social and economic dimensions of inequality and applied general equilibrium modelling, particularly as applied to the African (and South African) context, with a special focus on regional disparities, decision support systems, development planning and international trade. He has partaken in consultancy work for various industries (both local and international) from governmental departments, financial institutions, private companies, international organisations, through to real economy institutions such as freight transport companies and utility providers. He has experience in teaching both students and development practitioners in the field.





MICHEL DUMONT taught International Economics and International Economic Organizations at the Faculty of Applied Economics, University of Antwerp (Belgium). He was assistant professor in Economics of Innovation at Delft University of Technology (The Netherlands) in 2007, before joining the Federal Planning Bureau of Belgium where he is currently involved in research on R&D, innovation and productivity.



NOLEEN SITHOLE-PISA is a PhD student in the School of Economics at the North-West University (Potchefstroom campus). Her PhD studies is in International Trade focusing on industrial clusters in the North-West province of South Africa. She completed her Masters degree in 2010 on the export promotion of South African edible nuts to Germany. She has published an article from her Master's thesis. She has also been involved in several conference presentations.





## Foreword

The research, which is reported in the present volume, is the result of a long collaboration between the editors, going back to 2000, with a comparative study of competitive intelligence of South African and Belgian exporters, funded under the Flemish government's research programme for Bilateral Scientific and Technological Cooperation (BSTC) between Flanders and seven priority countries that included South Africa.

It was a little step from competitive intelligence and the involvement of export supporting organisations, to the broader theme of export promotion. This step was also a natural one for two reasons: Prof. Ludo Cuyvers, since the inception of the Flemish export promotion organisation member of the Board of Directors, had designed a decision support model, in collaboration with Proff. Patrick De Pelsmacker, Glenn Rayp and Irene Roozen, as far back as 1991, and Prof. Wilma Viviers had set up at the North-West University in South Africa an Export Promotion Research Group in 2006, where South African export promotion priorities were discussed.

In 2005, the DSM was mentioned in the "Draft National Export Strategy 2006-2009" of the Department of Trade and Industry (DTI) as one of the two pillars on which South Africa aimed to build its export strategy. In 2006, when Prof. Viviers approached senior officials of Trade and Investment, South Africa (TISA) and the Department of Trade and Industry (DTI) to apply the DSM in South Africa, her proposal evidently met with much interest, which started a close cooperation between the NWU and the DTI. The DSM's methodology was revised and tailored to meet South Africa's unique trade circumstances. It was applied in South Africa in 2007, 2009 and 2010. The endeavour resulted in many research publications and presentations, and the consolidation of the Export Promotion Research Group (EPRG) at NWU, with researchers from Belgium and South Africa being led by Proff. Wilma Viviers and Ludo Cuyvers. Most of the contributions to this publication/book have their origins in the work the EPRG has undertaken since 2006.

As the DSM had been applied to Belgium in the early and mid 1990s, and to Thailand and the Philippines afterwards, during which the methodology had been occasionally modified, a need was arising to take stock of the newest developments of the DSM, as well as to further investigate the many uses of the DSM results. From these the idea of writing the present volume arose.

Following several requests to present the results of the DSM to various government organisations, and as more postgraduate students became interested in undertaking graduate research into export promotion, it was decided the EPRG's research would have greater value if it were to be published. Fellow researchers were invited to contribute to the

publication; the final result being a publication dealing in various topical aspects relating to the development of the DSM, the identification of export opportunities, the application of the model in diverse countries, and the strategic application of results in both public and private sector export promotion activities.

Two of the contributors had already published extended versions of their chapters, or related work, in peer-review journals, and they agreed to re-publication of this work in the book.<sup>1</sup> Some chapters also drew on the work of three doctoral (PhD) theses, completed during the course of the research project.<sup>2</sup>

- 
- 1 Cuyvers, L. & Dumont, M. 2008. The assessment of public export activities using DSM results: the case of Belgium. *Review of Business and Economics*, 53(1): 69-92.  
Steenkamp, E.A., Rossouw, R., Viviers, W. & Cuyvers, L. 2009. Export market selection methods and the identification of realistic export opportunities for South Africa using a decision support model. [Online.] Available from: <http://www.sadctrade.org/node/281>.
  - 2 Kuhn, M-L. 2010. *Exporters' information requirements: The role of Competitive Intelligence in the export promotion of extruders*. Published PhD thesis. Potchefstroom: NWU.  
Grater, S. 2011. *The development of an export opportunities model for South African services*. Unpublished PhD thesis. Potchefstroom: NWU.  
Steenkamp, E.A. 2011. *The identification of export opportunities for South African products with special reference to Africa*. Unpublished PhD thesis. Potchefstroom: NWU.

## Acknowledgements

A book like this would not be possible without the assistance and contributions of many researchers and colleagues who have shaped the field and our ideas in it. The DSM was originally designed by Ludo Cuyvers, Patrick De Pelsmacker, Glenn Rayp and Irene Roozen, and without their seminal intellectual input the output in this volume would not have been possible. The DSM and its applications were also presented and thoroughly discussed at a number of international conferences, as well as at workshops both in Belgium and South Africa, from which we all benefited greatly.

In addition to contributing to this publication, a number of people and institutions have added to the success of the continued export promotion research project. They are:

- The Flemish Government and the Flemish Foreign Trade Organisation (presently Flanders Investment and Trade) for its initial financial investment in the development and first applications of the DSM;
- WorkWell Research Unit and the newly-established TRADE Research Niche Area, both within the Faculty of Economic and Management Sciences of the North-West University (Potchefstroom campus), for their generous sponsorships in making this publication possible.
- The National Research Foundation (NRF) of South Africa for financial assistance;
- The Department of Trade and Industry (the DTI) for its financial support during the application of the DSM in South Africa in 2007, 2009 and 2010. In particular, gratitude must be afforded to Mr Riaan le Roux, Chief Operating Officer (COO) of Trade and Investment (TISA), a division of the DTI (Department of Trade and Industry), who, over many years, provided outstanding assistance and expert advice in refining and updating the DSM specifically for South African circumstances;
- The University of Antwerp and the Fonds Wetenschappelijk Onderzoek – Vlaanderen (FWO-Vlaanderen) for granting Prof. Ludo Cuyvers sabbatical leave for one year, and the NWU, specifically the Faculty of Economic and Management Sciences, for granting Prof. Wilma Viviers sabbatical leave for six months; such leave making it possible for the two editors to complete many chapters;
- The members of the Export Promotion Research Group (EPRG) who, since 2006, through their postgraduate studies have contributed ideas to and participated in the development of this publication. In alphabetical order, they are Sonja Grater (PhD student, 2011), Adelia Jansen van Rensburg (PhD student, 2009), Marié-Luce Kühn (Masters

student, 2004 and PhD student 2010), Jacyntha Maclennan (Masters student, 2010), Joseph Pearson (PhD student, 2007), Professor Riaan Rossouw (researcher and developer of the DSM Dashboard), Noleen Sithole-Pisa (Masters student, 2010, and research assistant, 2009-2011), and Ermie Steenkamp (PhD student, 2011);

- Drs Sonja Grater and Ermie Steenkamp, who provided valuable and enthusiastic assistance in the final editing of chapters, and Danielle le Clus for her technical assistance in the final stages of the book;
- All other authors who submitted contributions to this book and, in doing so, assisted both in taking the discussion further and in developing the ideas and insights into an area that could contribute to continuing debate; and
- SUN MeDIA MeTRO, who generously agreed to assist in publishing an extremely interesting, but probably not very profitable book. Our warm and heartfelt gratitude extends to them all, and in particular, to Wilna Killian.

**Ludo Cuyvers**

University of Antwerpen, Belgium  
ludo.cuyvers@ua.ac.be

**Wilma Viviers**

North-West University, Potchefstroom,  
South Africa  
wilma.viviers@nwu.ac.za







# Chapter 1

---

## Introduction

*Ludo Cuyvers & Wilma Viviers*

Export promotion is often regarded as a public good and is, therefore, in many countries supplied, wholly or partially, by the public sector. Export promotion organisations (EPOs)<sup>1</sup> are, however, increasingly facing diminishing returns in the use of export promotion instruments, particularly the more traditional and most widely-used instruments, such as the participation in trade missions, the participation in trade fairs and exhibitions, etc. Empirical support for this assumption can be found in studies such as Alvarez (2004), De Wulf (2001), and others, including for the existence of diminishing returns to scale of the export promotion budgets (see e.g. Lederman, Olarreaga & Payton, 2006).

On the other hand, with the success of the export strategies of a number of Newly Industrialising Countries (NICs) and emerging exporting countries, public export promotion organisations in both the developed and the developing countries are facing an urgent need of enhancing the efficiency of their export promotion activities, the more so as many of these EPOs are confronted with constraints in the available financial and other resources.

From this it follows that EPOs are in need of criteria to prioritise their activities to the markets and products that are offering the most promising export results for the countries which they represent, and to develop the most appropriate export promotion strategies for the products and the markets which they prioritised. Therefore, governments and organisations that want to stimulate their countries' exports, have to identify a smaller number of realistic

---

<sup>1</sup> Many alternative terms are used in the literature, such as public export promotion agencies (PEPAs), export promotion agencies (EPAs), trade promotion agencies (TPAs) and trade promotion organisations (TPOs). However, for the purpose of consistency, the term export promotion organisation (EPO) will be used throughout this publication.

export opportunities from the vast number of possible opportunities that exist as only a limited number of export opportunities can be explored due to scarce resources (people and finance).

Therefore, as governments and organisations are operating with these scarce resources, a subsequent selection of opportune markets and product groups (product-country combinations) has to be made. Furthermore, the development of an export promotion strategy or the analysis of the effectiveness of existing export promotion programmes has to rely on hard quantitative data on foreign markets.

In order to assist export promotion organisations to better and more efficiently design export promotion programmes, geared to the continuously changing international environment, a decision support model was developed by Cuyvers *et al.* (see Cuyvers, De Pelsmacker, Rayp & Roozen, 1995). It was first applied to Belgium in 1992, 1993 and 1995 for the Flemish EPO (Cuyvers *et al.*, 1995) and for academic purposes in 1996, 2003 and 2008, and to Thailand (Cuyvers, 1996; 2004) and the Philippines. After that the methodology was revised and refined to suit better the South African situation in 2007, 2009 and 2010 (Viviers & Pearson, 2007; Pearson, Viviers, Cuyvers & Naudé, 2010; Viviers, Rossouw & Steenkamp, 2009; Viviers, Steenkamp, Rossouw & Cuyvers, 2010).

This model endeavours to make a selection of possible export markets, which are potentially profitable, from the set of all possible worldwide product-country combinations. Using macroeconomic data and international trade statistics, the selection process of the model consists of four consecutive filters, such that results from a previous filter are used as input and starting point in the next filter (for a detailed description of the DSM methodology, see Chapter 4).

In the course of the years also the nature of the international trade data used changed from SITC 2-digits in 1992, to SITC 4-digits data in the 1995 Belgian DSM run, as well as the subsequent runs for Belgium, Thailand and the Philippines, with a last run for Belgium-based on SITC 4-digit data in 2008.

Although in the first application of the DSM to South Africa of 2007 also SITC 4-digit data had been used, it was decided for the subsequent applications to South Africa, Belgium and Thailand, to rather use HS 6-digit data. The rationale for this change was as follows. The export opportunities detected on the basis of the DSM approach are taking the form of product-country combinations and are to be used by export promotion organisations and exporters. These users, however, are not familiar with SITC product categories, but rather with the product codes that are appropriate to perform export and import customs procedures, which are these of the Harmonised System (HS). The drawback of using HS

6-digit international trade data, unfortunately, is that the results are very hard to compare with these from previous applications. Moreover, from the point of view of export promotion the number of detailed export opportunity leads to follow up is staggering and require to be further narrowed down. One of the aims of the present volume is to find better ways to do so and to assist EPOs to prioritise their activities.

Part I of this book focuses on the political circumstances in which the applications of the DSM in Belgium took place, international market selection methods and the development of the decision support model (DSM).

Public export promotion involves a number of “players”, such as the EPO, but also the political authorities, sectoral organisations, the business community, individual exporters, etc. It goes without saying that the material and organisational interests of these players are mostly not the same. An analytical tool as the DSM easily leads to a list of export opportunities and priorities, which in its details is at odds with some of these interests. Therefore, the results of the DSM are often met with opposition from some of the “players”. Chapter 2 is an attempt to make a public choice analysis of export promotion and which motivates the DSM as an objective tool to counter lobby pressures on export promotion. As a tool for assisting export promotion organisations, the DSM was originally developed for the EPO of the Flemish region of Belgium. In Chapter 2, the subsequent events following its first applications are interpreted from a political economy point of view. Although the chapter starts with a simple game theoretical approach to public export promotion, it is shown that, based on the historical experience with the DSM, in the real world much more “players” and more complicated interactions are involved. Yet, some conclusions are drawn which, we hope, are relevant both for the theory and the practice of public export promotion.

In Chapter 3, the vast literature on market selection methods is reviewed and the DSM approach is assessed within this literature. From this assessment it appears that for the purposes of the prioritising, planning and designing of public export promotion activities, the DSM conforms to the prerequisites that all possible world-wide product-country combinations must be considered and that a limited list of the product-country combinations with the highest export potential for the exporting country should be produced in order for an export promotion organisation to use their resources optimally. The assessment based on the literature review also clearly reveals that, in contrast to other market selection methods, the DSM seems to be capable of handling a large array of possible product-country combinations due to the filtering process used, and finally provide a list of priority products in each country and, vice versa, a list of priority countries for each product.

The DSM methodology, as such, is explained in detail in Chapter 4. As the DSM was developed in 1992 and applied on a number of occasions, also since then a number of changes were

Governments are increasingly confronted with scarce resources, which force their export promotion organisations to seek more efficient ways and methods. At the same time, with the export successes of the emerging economies, public export promotion policies of countries are confronted with diminishing returns, particularly when the traditional export promotion instruments are used. The DSM (Decision Support Model) approach to export promotion, which is adopted and explained in the book, is deeply rooted in the international marketing research literature and allows to identify, in the rapidly changing international environment, the most promising realistic export opportunities for exporting countries.

The chapters explain the DSM approach in detail and illustrate the most recent results for three countries: Belgium, South Africa and Thailand. They further elaborate on newer developments and applications such as the identification of export opportunities for services, as different from products, and the use of DSM results for assessing past export promotion programmes as well as recommending appropriate export promotion strategies at product level. The reasons why and how the identified DSM export opportunities have to be followed up by suitable Competitive Intelligence by export promotion organisations and supporting organisations, is also discussed.

*“The methodology behind the Decision Support Model (DSM) contributes significantly to the success of the research and the study. It is a groundbreaking innovation in the area of international trade, especially for trade policy development proposes.”*

- Dr SJ Jansen Van Rensburg, Trade Negotiations Coordinator,  
Southern African Customs Union (SACU) Secretariat, Windhoek, Namibia

*“The DSM (Decision Support Model) approach is an ambitious attempt to give export promotion strategies a scientific foundation. The book is a ‘must’ for both practitioners and researchers in international marketing and export promotion”.*

- Dr Glenn Rayp, Professor in international economics,  
Faculty of Economics and Business Administration, University of Ghent, Belgium

*“The DSM research constitutes international best practice.”*

- Mr Riaan le Roux, Chief Operating Officer of Trade and  
Investment South Africa (TISA) of the Department of Trade and Industry (DTI) in South Africa



LUDO CUYVERS is emeritus professor of the University of Antwerp, Belgium, where he is still Director of the Centre for ASEAN Studies, and extraordinary professor at the North-West University (Potchefstroom campus), South Africa.

WILMA VIVIERS is a professor and the director of the School of Economics in the Faculty of Economic and Management Sciences at the North-West University (Potchefstroom campus).



SUN PRESS

ISBN 978-0-9870096-3-0



9 780987 009630