



Complementary approaches to preliminary foreign market opportunity assessment: Country clustering and country ranking

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Abstract

Companies seeking to expand abroad are faced with the complex task of screening and evaluating foreign markets. How can managers define, characterize, and express foreign market opportunity? What makes a good market, an attractive industry environment? National markets differ in terms of market attractiveness, due to variations in the economic and commercial environment, growth rates, political stability, consumption capacity, receptiveness to foreign products, and other factors. This research proposes and illustrates the use of two complementary approaches to preliminary foreign market assessment and selection: country clustering and country ranking. These two methods, in combination, can be extremely useful to managerial decision makers in the early stages of foreign market selection.

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1. Introduction

Marketing across national boundaries has become imperative for long-term company survival and profitability. However, faced with so many countries to evaluate, a business executive can be overwhelmed with the diversity and complexity of alternative market opportunities. There are vast differences among countries in terms of size, income, language, infrastructure, market access, culture, and many other important dimensions. Yet, the differences and similarities among countries are fundamental in determining which markets are suitable for entry.

The issue of delineating and quantifying foreign market opportunity has always been a primary concern for managers, and numerous methods have been presented (e.g., Douglas & Craig, 1983; Harrell & Kiefer, 1981; Helsen, Jedidi, & DeSarbo, 1993; Kale & Sudharshan, 1987). Cavusgil (1985) suggests a three-step process for identifying the overseas markets with the best potential. He recommends a preliminary screening to determine which possibilities warrant further investigation, to be followed by an assessment of

industry market potential to estimate aggregate demand, and finally, an analysis of sales potential in light of a company's unique product and circumstances. Whatever the process may be, it is commonly accepted that country screening should be the first step.

International marketers use two primary approaches in screening for attractive markets abroad. First, clustering yields a group of countries with similar commercial, economic, political, and cultural dimensions. These similarities not only help managers compare the countries, but also provide information on possible synergies among markets. The second is ranking countries according to dimensions that are relevant to the international marketer. Ranking essentially rates countries in terms of their overall market attractiveness. When these two methods are combined, the manager can identify a reduced set, or sets, of potentially attractive markets with meaningful similarities. Once the screening is completed, in-depth evaluation is still necessary for foreign market entry and expansion decisions.

2. Background

A number of studies have illustrated the use of clustering and ranking. Some researchers suggest them as a prelimi-

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nary step, while others recommend them for ultimate country selection or market segmentation. Therefore, the value of these two methods has been debated in the literature. Papadopoulos and Denis (1988) provide an extensive review of market selection methods and a critique of each. This section presents a brief background and some examples of clustering and ranking.

2.1. Country clustering

The first significant effort in country clustering was reported in the late 1960s (Liander, Terpstra, Yoshino, & Sherbini, 1967). Among the empirical methods for international market selection, cluster analysis was identified as the most complex. The authors grouped countries according to their similarity in economic development. Although widely acknowledged for its contributions, this research was criticized for its methodological weaknesses (Sethi & Holton, 1969).

In the second significant study in this area, Sethi (1971) argued for the segmentation of world markets based on similar clusters. Only then could uniform sets of marketing decisions be applied either to a group of countries or to particular types of customers in different countries. Instead of geographic proximity as a basis for segmentation, Sethi suggested cultural, political, socioeconomic, and religious indicators. He argued that these factors make international marketing more complex than domestic marketing. Ninety-one countries were grouped according to 29 variables, including transportation, communications, and personal consumption data. Sethi concluded that countries should not be classified on the sole dimension of development but on shared traits, which can be evaluated as strong or weak attributes for business purposes.

Huszagh, Fox, and Day (1985) attempted to identify country clusters with a highly favorable environment for the pursuit of a global marketing strategy. They examined 21 countries classified as major industrial markets by the World Bank, and the final clustering presented five groups. The dimensions used were life expectancy (males), average length of work week, percentage employed in services, consumer price index, unemployment rate, government spending per capita, manufacturing as a percentage of GDP, urbanization, and private spending as a percentage of GNP.

Cavusgil (1990) offered a market-oriented clustering on the basis of population growth, median age, number of children per household, participation of women in the work force, infant mortality rate, life expectancy, and GNP per capita. His classification resulted in five clusters: Dependent Societies, The Seekers, The Climbers, Luxury and Leisure Societies, and The Rocking Chairs. Cavusgil also discussed marketing implications for each cluster and pointed to the fast pace of change, noting that this can alter cluster composition and invited marketers to conduct periodic studies.

An investigation by Sriram and Gopalakrishna (1991) aimed to identify candidates for standardized international advertising campaigns. They suggested clustering based on economic and cultural similarities as well as media availability and usage. Forty countries were grouped into six clusters on that basis. Tixier (1994) examined management and communication styles in Western Europe through wide-ranging interviews. The usual clusters for the Continent are northern Europe, southern Europe, Latin, Anglo-Saxon, Nordic, and Germanic. Tixier revealed there are many nuances, and the traditional categories have numerous exceptions.

The basic shortcoming of clustering approach has been repeatedly identified as an exclusive reliance on aggregate, macro indicators (Cavusgil & Nevin, 1981; Douglas & Craig, 1983; Papadopoulos & Denis, 1988) at the neglect of specific-product/service market indicators. Critics propose that product-specific variables be included, but this is more feasible during the later stages of the market opportunity analysis. These indicators are not readily available as secondary data, and require extensive and costly market research. Therefore, their inclusion is appropriate only when a reduced set of countries has been identified. Furthermore, the criticism may have merit when cluster analysis is being used to identify market segments or ultimate country selection, but a preliminary market assessment based on aggregate data is still a necessary initial step. In addition, Day, Fox, and Huszagh (1988) note that for industrial firms marketing goods in foreign countries, the level of economic development is a major determinant in the demand for industrial inputs. Thus, segmenting the global market on the basis of economic, political, and structural factors has considerable appeal. Finally, in a recent study of the consumer packaged goods industry, Day, Yip, and Christmann (1995) found that environmental conditions have a large effect on subsidiary performance of multinational corporations (MNCs). The authors conclude that an MNC's ability to choose the right countries for entry and investment should lead to significant competitive advantage. The environmental variables used in the study were level of development, population, inflation, exchange rate instability, tax rate, and political stability.

A second criticism of country clustering centers on the assumption that countries are indivisible, homogeneous units (Jain, 1996; Kale & Sudharshan, 1987). Kale and Sudharshan (1987) contend that within-country heterogeneity is totally ignored. In addition, because similarities among groups of consumers across national boundaries are not considered, possible economies of scale in production, R&D, marketing, and advertising are lost. The authors suggest an intermarket segmentation approach to identify similar consumer segments across borders, but that is mostly applicable to large corporations in consumer markets. Cundiff and Hilger (1984) note that universal needs and similarities in buying processes are far more

evident in industrial than in consumer markets. Therefore, intermarket segmentation may not be necessary in industrial markets. In addition, small to medium enterprises usually do not have the financial or human resources to enter multiple markets simultaneously. Typically, they enter one or two at a time. In fact, Simon (1996) found this exact pattern in the internationalization process of highly successful small German firms. It should be pointed out that the segmentation approach again applies only to the final stages of selecting a market. Kale and Sudharshan suggest that a preliminary market assessment as outlined by Cavusgil (1985) be followed to identify a reduced set of countries. Therefore, the need for a preliminary assessment using techniques, such as country clustering, is further emphasized.

Another criticism of approaches based on environmental macrofactors is presented by Luqmani, Yavas, and Quraeshi (1994), who argue that international markets should be seen as a continuum rather than as entirely similar or dissimilar. They propose that the level of convenience demanded in products and services by consumers worldwide represents such a continuum. This perspective provides a rationale for constructing an index that places countries on a continuum rather than forcing them into distinct and mutually exclusive clusters. Inarguably, using both methods simultaneously would provide much insight in reducing the set of countries to consider.

A final drawback of clustering arises from its use of secondary data. Typically, such sources lack comparability across countries, are unreliable, and are not current (Cavusgil & Nevin, 1981; Papadopoulos & Denis, 1988). Although these are significant issues for researchers and managers to keep in mind, they are of less concern today, given the proliferation of new data sources, advances in computer technology, improvements in data collection, and adjustment by government agencies and international organizations.

2.2. Country ranking

The second principal method for identifying target markets is to rank countries on some meaningful indicators of market potential. Liander et al. (1967) derived country preference indices based on two sets of criteria: economic development, and internal stability and cohesion. Samli (1977) used this approach to derive a “market quality index” by using macroindicators for countries in Eastern Europe.

Harrell and Kiefer (1981) also demonstrated the development of a country attractiveness scale in describing Ford Tractor’s market portfolio approach. The scale was a linear combination of ratings of market size, market growth, price controls and regulations, homologation requirements, local content and compensatory export requirements, inflation, trade balance, and political stability. The weights of each factor were determined

according to the relative importance of each variable in Ford’s planning efforts. The study showed how companies can effectively customize and use such scales and indices.

A widely consulted resource that employs the indexing approach is *Business International* (1992), which used three indicators of market potential for world geographic regions and individual countries: market size, market intensity, and market growth. The size dimension is derived by averaging data on the following variables: total population (double weighted), urban population, private consumption expenditure, steel consumption, electricity production, and ownership of telephones, passenger cars, and televisions. The intensity dimension is calculated by averaging per capita figures for cars in use (double weighted), telephones in use, televisions in use, steel consumption, electricity production, private consumption expenditure (double weighted), and percentage of population that is urban (double weighted). Finally, the growth dimension is an average of cumulative increase in population, steel consumption, electricity production, and ownership of passenger cars, trucks, buses, and televisions. *Business International* issued this index annually for several years, but the publication ceased in 1993.

The most recent example of indexing is offered by Cavusgil (1997a, 1997b). Using 13 variables, he examined 23 countries identified as emerging markets by the *Economist* and ranked them on market size, market growth rate, market intensity, market consumption capacity, commercial infrastructure, economic freedom, and market receptivity. The dimensions are derived by standardizing the variables and then converting them to a scale of 1–100. The relative weights of the dimensions are determined by a Delphi process of international business professionals and educators. Finally, the seven dimensions are combined into the overall market opportunity index by using the corresponding weights. Cavusgil emphasizes that the index is an aggregate measure of attractiveness and should only be used at the preliminary market assessment stage. The index is available online through Michigan State University’s GlobalEDGE knowledge portal (www.globaledge.msu.edu) and is updated periodically (Cavusgil, 1997a, 1997b).

The major objections to indexing are similar to the criticisms of clustering. The main drawback is the lack of product specificity in the indicators (Papadopoulos & Denis, 1988). As noted above, this weakness is also acknowledged by Cavusgil (1997a, 1997b). It is important to keep in mind that the index should only be used for initial country screening, not for final selection purposes. In addition, due to its more intuitive and less demanding methods, indexing can easily be customized by managers according to their own preferences or priorities. This can be achieved either by adjusting the weights of the dimensions or, if data are available, by adding new and more firm- or industry-specific dimensions.

3. Analysis and results

The present study (1) illustrates the application of two preliminary market assessment techniques and the synergy that arises by using them simultaneously; (2) uses a highly rigorous methodology to overcome some of the limitations of previous work; and (3) employs the latest available data to derive contemporary clusters and rankings. Initially, about 100 countries were selected for the study. Information was gathered from publicly available secondary data sources. Due to missing data, a number of countries had to be filtered out, leaving a final set of 90 countries.

The variables were identified through a review of the literature (primarily Douglas & Craig, 1995; Jain, 1996; Sethi, 1971). In addition, four variables not mentioned in previous research were incorporated. First, because the Internet has emerged as a new medium of information dissemination, the number of Internet hosts per million people was added, complementing other communication-based measures such as radios, television sets, and newspaper circulation.

The second new variable is the *Index of Economic Freedom*, a joint publication by the Heritage Foundation and *The Wall Street Journal*. It is based on 10 factors: trade policy, tax policy, government consumption of economic output, monetary policy, foreign investment, wage controls, price controls, property rights, regulation, and the size of the black market. In each category, a country's economy is assigned a score on a scale from 1 (*best or least subject to macroeconomic regulation*) to 5 (*worst or most subject to macroeconomic regulation*).

The third new variable is taken from *Freedom in the World*, a survey of the state of political rights and civil liberties around the world. It rates 191 countries on those two dimensions. The scale ranges from 1 (*free*) to 7 (*not free*) for each dimension. An average of the results provides a comparative measure of political freedom.

The last new variable is the *Country Risk Survey* published semiannually by *Euromoney*. To rank 179 countries, the assessment uses three broad groups of indicators—analytical, credit, and market—divided into nine categories: economic data, political risk, debt indicators, debt in default or rescheduled, credit ratings, access to bank finance, access to short-term finance, access to capital markets, and discount on forfeiting. The final score is determined through a weighted average of scores in these categories; the fastest growing, best performing economy in an ideal year would score 100 and the worst economy in a disastrous year would score 0. The 29 variables included in this study and their sources are provided in Table 1.

3.1. Implementing the clustering technique

The objective of clustering is to give marketers insights into the structural similarities among markets that may

provide the basis for formulating synergistic international marketing strategy. Groups based on similarities and differences along meaningful dimensions can lead to unique insights.

An exploratory factor analysis was executed using principal components analysis, followed by a Varimax rotation. The resulting factor loadings are provided in Table 2. Five factors emerged, explaining 76.5% of the total variance. The first factor covers six variables: railroad density, paved road density, Internet hosts, ratio of college students, the public expenditure on education, and the airports per million people, representing the level of development of the *infrastructure* in a country. The second factor covers value-added services, index of economic freedom (reverse coded), telecommunication investment, GDP per capita, and newspaper circulation. As these variables are indicators of prosperity, we label this factor as *economic well-being*. The third factor consists of unemployment rate, literacy rate and life expectancy, which reflect the *standard of living*. The fourth factor, which includes total electricity production, total population, and urban population, is related to the *size of the market*. The final factor, consisting of the investment as percentage of GDP and the GDP growth rate represents the *dynamism* and the future potential of the market.

Hair, Anderson, Tatham, and Black (1995) point out that factor scores are unique to a particular set of data and are not replicable in other studies. If replicability or transferability is desired, then summated scales should be preferred. Therefore, for each of the five factors, a summated scale (or, rather, factor average) was constructed from the variables that were found to be significant. In calculating the factor averages, each variable was transformed into *z* scores. This is necessary because the data contain measures with considerably different scales. To minimize the scale effects and to avoid any implicit weighting, the variables were standardized. In addition, those with negative factor loadings were reversed to ensure that the averages were precise in representing the factors.

Since we do not know a priori the number of clusters and their seed points, a hierarchical clustering technique was selected initially. Nonhierarchical techniques (e.g., *k*-mean algorithm, as applied by Helsen et al., 1993, as well as Day et al., 1988) are known to be very sensitive to the choice of initial seeds. Simulation studies have shown that the non-hierarchical clustering algorithms perform poorly when random initial seeds are chosen (Hair et al., 1995; Sharma, 1996). Using squared Euclidean distances and Ward's clustering algorithm, several solutions were examined to determine the number of clusters to be extracted. Ten clusters were identified using the hierarchical clustering technique.

A significant disadvantage of hierarchical techniques is that once an observation is assigned to a cluster, it cannot be reassigned to another. Therefore, the cluster seeds from

Table 1
Variables and sources of data used in analyses

Variable	Description	Units	Year	Source
POPULATION	Total population	in thousands	2000	World Bank World Development Indicators 2002
URBANPOP	Urban population	in thousands	1999	World Bank World Development Indicators 2001
URBANZTN	Urbanization	% population	1999	World Bank World Development Indicators 2001
ELECPROD	Electricity prod	million kwh	1998	World Bank World Development Indicators 2001
NEWSCIRC	Newspaper Circulation	per thousand people	1996	World Bank World Development Indicators 2001
TVSETS	Television sets	per thousand people	1999	World Bank World Development Indicators 97
RDIOSETS	Radio sets	per thousand people	1997	World Bank World Development Indicators 2001
INTERNET	Internet hosts	per million people	1997	World Bank World Development Indicators 2001
PHONEDEN	Telephone Mainlines	per thousand people	1999	World Bank World Development Indicators 2001
TLCOMINV	Telecommunications investment	\$ per person	1999	ITU World Telecommunication Report 2001
LIFEXPCT	Life expectancy	years	2000	World Bank World Development Indicators 2002
LITERACY	Literacy in adults		1999	World Bank World Development Indicators 2001
COLLGEDU	Number of 3rd level students	% of gross	1996	World Bank World Development Indicators 2001
PUBEXPED	Public expenditure on education	% of GNP	1996	World Bank World Development Indicators 2001
HERITAGE	Index of economic freedom		2002	The Heritage Foundation (www.heritage.org)
FRDMHOUS	Survey of political freedom		2002	Freedom House (www.freedomhouse.org)
ENRGYCON	Energy consumption	kg oil equivalent per capita	1998	World Bank World Development Indicators 2001
RAILWAYS	Length of railways	km per million people	2001	CIA World Factbook 2001
PAVDROAD	Length of paved roads	km per million people	1998	World Bank World Development Indicators 2001
AIRPORTS	No. of airports with paved runways	per million people	2000	CIA World Factbook 2001
SRVCGDP	Services value added	% of GDP	1999	World Bank World Development Indicators 2001
INVSTGDP	Gross Domestic Investment	% of GDP	1997	World Bank World Development Indicators 2001
UNEMPLOY	Unemployment		2000	CIA World Factbook 2001
GDPPC	GDP (PPP) per capita	\$ per person	1999	World Bank World Development Indicators 2001
GDPGRWTH	GDP real growth rate		1995–1999	World Bank World Development Indicators 2001
CNTRYRSK	Country risk survey		2001	Euromoney—Sep. 2001
ENRGCNGR	Average annual growth rate of commercial energy use		1994–1998	World Bank World Development Indicators 2001
OPENNESS	Openness of country for trade (trade as % of GDP)		1999	World Bank World Development Indicators 2001
USIMPPC	U.S. imports per capita	\$ per person	2000	STAT USA

Table 2
Factor loadings

	Factor 1 Infrastructure	Factor 2 Economic	Factor 3 St. Living	Factor 4 Market size	Factor 5 Dynamism
RAILWAYS	0.839	0.172	0.189	−0.041	−0.060
PAVDROAD	0.816	0.237	0.151	−0.036	0.094
COLLGEDU	0.655	0.490	0.367	0.109	−0.186
AIRPORTS	0.770	0.264	0.101	0.134	−0.218
PUBEXPED	0.634	0.102	0.123	−0.249	0.134
INTERNET	0.625	0.510	0.004	0.353	−0.132
SRVCGDP	0.331	0.679	0.134	−0.136	−0.218
HERITAGE	0.177	0.714	0.181	−0.368	0.234
TLCOMINV	0.166	0.901	0.201	0.016	0.015
GDPPC	0.413	0.799	0.262	0.137	−0.090
NEWSCIRC	0.128	0.799	0.292	0.029	−0.101
UNEMPLOY	−0.183	−0.255	−0.788	−0.062	−0.107
LITERACY	0.290	0.249	0.758	−0.071	−0.226
LIFEXPCT	0.213	0.480	0.680	0.013	−0.090
ELECPROD	0.261	0.121	0.048	0.826	−0.195
POPULATION	−0.172	−0.119	−0.028	0.822	0.328
URBANPOP	−0.113	−0.071	0.030	0.932	0.168
INVSTGDP	−0.375	0.050	0.398	0.064	0.542
GDPGRWTH	0.101	−0.124	−0.212	0.165	0.811

the hierarchical method need to be input to the *k*-means method. This complements the advantages of hierarchical methods with the ability of nonhierarchical methods to fine-tune the results through the switching of cluster members (Hair et al., 1995). Four countries switched clusters. The rest of the clusters remained intact, proving the stability of the solution reached. The cluster solution is presented in Table 3.

Fig. 1 shows the distance of each country from its respective cluster center. This analysis is critical to identify countries with significant dissimilarities from the rest of their cluster. Two countries emerged, and care must be taken into consideration when interpreting their cluster membership.

The first two clusters include 15 countries that have less developed infrastructures and lower economic well-being. Moreover, these two clusters are characterized by low life expectancy. Cluster 1 includes the countries with the lowest life expectancy. Clusters 3 to 6 primarily include the developing nations, sharing similar infrastructure development and economic well-being, yet exhibiting a different composition with respect to market dynamism. Cluster 5 has the

Table 3
Cluster solution

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Cluster 9	Cluster 10
Bangladesh	Algeria	Dominican Rep.	Albania	Argentina ^a	Chile	Austria	Australia	China	USA
Kenya	Egypt	Malaysia	Armenia	Bolivia	Costa Rica	Belgium	Canada	India	
Mozambique	Ghana	Slovak Republic	Azerbaijan	Brazil	Czech Republic	Denmark	Finland		
Nepal	Honduras	Syria	Belarus	Bulgaria	Estonia	France	New Zealand		
Senegal	Indonesia	Tunisia	Georgia	Colombia	Greece	Germany	Norway		
Yemen	Morocco	Vietnam	Jordan ^b	Croatia	Hungary	Hong Kong	Sweden		
	Nigeria		Mexico	Ecuador	Ireland	Israel ^c			
	Pakistan		Moldova	El Salvador	Korea, South	Italy			
	South Africa		Mongolia	Guatemala	Latvia	Japan			
			Peru	Kuwait	Lithuania	Netherlands			
			Philippines	Paraguay ^d	Panama	Switzerland			
			Sri Lanka	Romania	Poland	United Kingdom			
			Thailand	Russia	Portugal				
			Turkey	Saudi Arabia	Singapore				
			Ukraine	Uruguay	Slovenia				
				Venezuela	Spain				
					UAE				

^a In the initial hierarchical cluster solution, Argentina belonged to Cluster 6. It moved to Cluster 5 during *k*-means clustering.
^b In the initial hierarchical cluster solution, Jordan belonged to Cluster 6. It moved to Cluster 4 during *k*-means clustering.
^c In the initial hierarchical cluster solution, Israel belonged to Cluster 6. It moved to Cluster 7 during *k*-means clustering.
^d In the initial hierarchical cluster solution, Paraguay belonged to Cluster 4. It moved to Cluster 5 during *k*-means clustering.

lowest market dynamism, followed by Cluster 4. While Cluster 3 is composed mainly by highly dynamic countries, Cluster 6 has a mixed composition. Yet, Cluster 6 differentiates itself from other developing country clusters through relatively better infrastructure and economic development. Clusters 7 and 8 include developed nations that possess better economic conditions and life expectancies compared with the previous clusters. Although Cluster 7 is similar to

Cluster 6 in composition with respect to infrastructure, the included countries have relatively better economic standing and life expectancy. Cluster 8 is also differentiated through extremely well-developed infrastructure. Size is the major difference between Clusters 9 and 10, and the rest of the clusters. China and India are included in Cluster 9, having a less developed infrastructure and lower life expectancy than the United States, which constitutes Cluster 10.

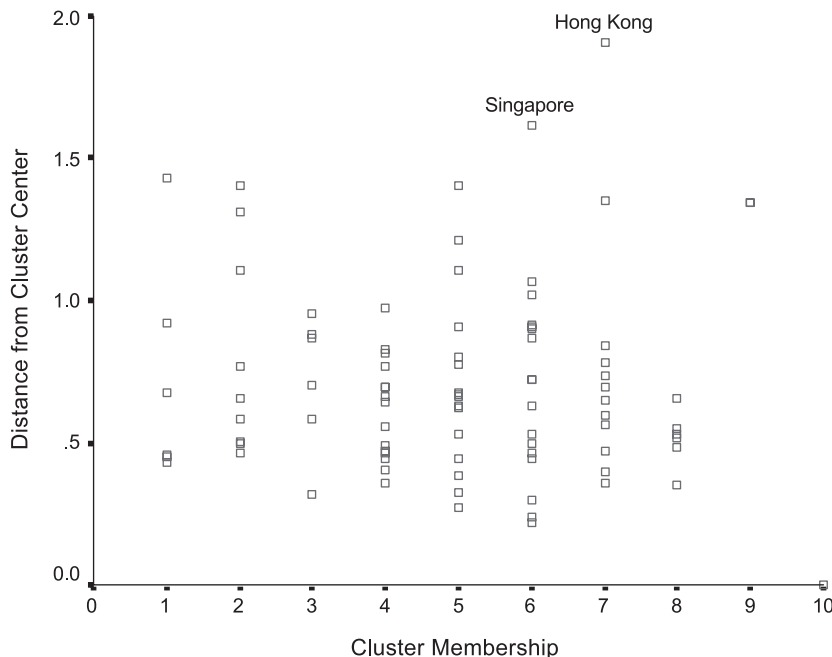


Fig. 1. Country cluster distributions.

Table 4
Market potential indicators and overall market attractiveness index

	Market size		Market growth		Market intensity		Infrastructure		Market receptivity		Free market structure		Country risk		Overall market potential	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Canada	24	8	23	72	87	11	85	4	70	2	93	8	88	14	100	1
China	100	1	60	13	18	81	16	57	3	80	16	86	49	32	91	2
Japan	53	3	23	72	86	12	60	12	4	76	80	25	88	14	90	3
Singapore	2	48	47	29	94	4	40	27	100	1	70	36	89	12	87	4
Ireland	1	62	87	3	74	21	55	18	45	4	97	2	90	11	83	5
Australia	10	18	39	42	89	8	100	1	9	51	96	4	86	16	76	6
Germany	31	5	11	85	90	7	56	16	10	47	87	14	91	9	75	7
United Kingdom	21	9	24	69	89	8	67	8	12	35	92	10	91	9	75	7
Belgium	5	30	38	46	100	1	57	14	36	6	87	14	89	12	73	9
Finland	3	38	53	21	75	20	98	2	11	40	94	7	92	5	73	9
Netherlands	6	27	26	65	92	5	65	9	31	7	97	2	93	4	72	11
Hong Kong	2	48	24	69	96	3	42	24	65	3	83	18	76	22	70	12
Sweden	7	24	34	51	85	13	79	5	16	18	92	10	92	5	70	12
France	25	7	22	77	80	18	60	12	8	56	74	31	92	5	69	14
Norway	5	30	28	60	89	8	86	3	12	35	84	17	96	2	67	15
Denmark	2	48	23	72	92	5	77	6	11	40	95	5	95	3	64	16
Korea, South	14	13	70	8	72	25	40	27	16	18	75	29	51	31	63	17
Spain	12	14	54	19	74	21	44	22	7	61	83	18	86	16	63	17
Switzerland	3	38	15	80	82	15	65	9	23	9	95	5	100	1	63	17
New Zealand	2	48	28	60	81	16	72	7	12	35	100	1	82	19	61	20
India	58	2	56	17	14	83	5	83	1	86	48	63	41	42	60	21
Italy	15	11	24	69	73	23	48	19	6	66	82	20	85	18	58	22
Austria	3	38	28	60	76	19	56	16	15	23	91	12	92	5	58	22
Israel	2	48	51	27	84	14	36	30	23	9	71	35	64	26	55	24
Chile	3	38	88	2	64	28	21	48	8	56	88	13	54	29	54	25
Portugal	3	38	60	13	60	30	37	29	9	51	87	14	81	20	54	25
Russia	47	4	29	57	56	34	26	39	9	51	25	81	18	68	51	27
Estonia	1	62	35	50	52	37	64	11	25	8	93	8	47	36	50	28
Brazil	31	5	41	38	58	32	26	39	1	86	54	49	30	53	48	29
Slovenia	1	62	68	9	52	37	35	31	16	18	66	42	67	25	48	29
United Arab Emirates	2	48	47	29	81	16	22	45	22	11	54	49	74	23	47	31
Greece	3	38	48	28	57	33	43	23	5	70	68	41	78	21	46	32
Malaysia	4	34	64	12	43	51	19	52	40	5	38	71	48	34	43	33
Mexico	17	10	23	72	55	35	18	54	18	15	62	44	49	32	42	34
Poland	9	19	45	34	49	42	33	32	6	66	74	31	48	34	42	34
Czech Republic	4	34	12	84	63	29	46	21	20	12	81	23	52	30	42	34
Hungary	2	48	22	77	53	36	47	20	16	18	81	23	62	27	42	34
Costa Rica	1	62	68	9	38	60	22	45	20	12	75	29	36	49	40	38
Argentina	8	21	41	38	73	23	28	37	1	86	79	27	26	58	39	39
Latvia	1	62	32	55	48	44	57	14	15	23	79	27	38	47	39	39
Slovak Republic	2	48	38	46	47	47	41	25	19	14	70	36	40	43	38	41
Uruguay	1	62	39	42	68	26	33	32	4	76	82	20	44	38	38	41
Kuwait	2	48	4	88	98	2	30	36	15	23	49	60	69	24	37	43
Croatia	1	62	68	9	42	53	26	39	12	35	52	54	40	43	34	44
Lithuania	1	62	28	60	49	42	41	25	12	35	82	20	36	49	34	44
Panama	1	62	52	24	39	58	16	57	15	23	74	31	39	45	33	46
South Africa	11	15	26	65	40	55	20	49	5	70	70	36	45	37	32	47
Thailand	5	30	52	24	15	82	14	62	15	23	73	34	44	38	32	47
Turkey	11	15	52	24	52	37	23	44	5	70	36	74	26	58	31	49
Georgia	1	62	100	1	36	64	27	38	9	51	39	69	2	88	31	49
Bolivia	1	62	72	6	37	61	19	52	4	76	70	36	20	64	31	49
Philippines	8	21	39	42	37	61	8	75	15	23	61	46	39	45	30	52
Saudi Arabia	7	24	26	65	67	27	20	49	11	40	24	83	58	28	29	53
Dominican Republic	1	62	55	18	44	50	8	75	13	32	64	43	24	60	28	54
Peru	3	38	46	31	48	44	11	65	2	84	69	40	30	53	27	55
El Salvador	1	62	43	35	30	69	15	61	10	47	80	25	34	51	27	55
Tunisia	1	62	53	21	45	49	11	65	11	40	39	69	44	38	26	57
Jordan	1	62	29	57	48	44	9	74	15	23	54	49	30	53	22	58
Mozambique	1	62	85	4	19	79	1	87	4	76	51	57	8	79	21	59

(continued on next page)

Table 4 (continued)

	Market size		Market growth		Market intensity		Infrastructure		Market receptivity		Free market structure		Country risk		Overall market potential	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Venezuela	6	27	23	72	59	31	17	56	5	70	34	76	28	56	20	60
Ukraine	11	15	13	81	43	51	32	34	14	31	26	80	8	79	19	61
Albania	1	62	84	5	24	74	10	70	3	80	38	71	3	86	19	61
Colombia	6	27	11	85	51	40	20	49	3	80	51	57	32	52	19	61
Armenia	1	62	43	35	42	53	16	57	8	56	54	49	9	78	19	61
Egypt	7	24	46	31	27	71	12	64	3	80	24	83	38	47	18	65
Morocco	3	38	29	57	34	67	10	70	7	61	43	68	42	41	18	65
Bulgaria	3	38	1	89	47	47	32	34	13	32	52	54	27	57	18	65
Honduras	1	62	37	48	30	69	11	65	18	15	53	53	17	69	18	65
Guatemala	1	62	53	21	24	74	4	84	6	66	56	47	24	60	18	65
Azerbaijan	1	62	59	15	34	67	11	65	11	40	25	81	11	76	17	70
Paraguay	2	48	34	51	36	64	13	63	7	61	50	59	20	64	17	70
Sri Lanka	1	62	54	19	12	85	7	78	10	47	56	47	20	64	17	70
Moldova	1	62	37	48	26	72	25	42	16	18	49	60	3	86	16	73
Ecuador	2	48	33	53	40	55	16	57	8	56	47	65	8	79	15	74
Romania	4	34	13	81	39	58	22	45	7	61	49	60	22	62	15	74
Belarus	2	48	41	38	51	40	24	43	18	15	3	88	1	89	14	76
Vietnam	3	38	72	6	7	88	7	78	13	32	10	87	22	62	14	76
Indonesia	15	11	13	81	23	76	8	75	7	61	45	66	13	75	14	76
Ghana	1	62	39	42	20	78	7	78	11	40	52	54	15	73	14	76
Algeria	4	34	31	56	40	55	10	70	5	70	34	76	20	64	13	80
Senegal	1	62	40	41	25	73	4	84	9	51	48	63	11	76	12	81
Mongolia	1	62	8	87	37	61	18	54	15	23	62	44	6	84	12	81
Syria	2	48	58	16	35	66	10	70	8	56	1	89	17	69	11	83
Nigeria	8	21	26	65	22	77	6	81	10	47	35	75	6	84	10	84
Bangladesh	5	30	46	31	9	86	1	87	1	86	37	73	17	69	9	85
Pakistan	9	19	28	60	19	79	6	81	2	84	29	79	14	74	8	86
Yemen	1	62	43	35	9	86	11	65	11	40	20	85	8	79	5	87
Kenya	2	48	18	79	14	83	3	86	6	66	32	78	16	72	1	88
Nepal	1	62	33	53	1	89	1	87	5	70	44	67	8	79	1	88

3.2. Constructing an index of country market potential

While clustering identifies markets in terms of macro similarities, it does not indicate which countries may be more attractive for trade or investment purposes. The objective of ranking is to order countries on the basis of aggregate market potential. The approach recommended by Cavusgil (1997a, 1997b), discussed previously, is used here. Whereas Cavusgil focused on emerging country markets, we attempt to rank a much larger set of countries. Furthermore, some of his variables have been replaced to enhance the usability and reliability of the existing dimensions, and a new dimension has been added to account for political and economic risk/stability.

Table 4 lists the seven dimensions in the index, the variables within each, and the generic weights used. Similar to the clustering analysis, all variables have been standardized to prevent artificial weighting (Sharma, 1996). The resulting scores were converted to a scale of 1–100 by the following formula:

$$X'_{ij} = \left[\frac{X_{ij} - \min_i}{R_i} (99) \right] + 1$$

Table 5
Dimensions and measures of foreign market potential

DIMENSION	WEIGHT	MEASURES
Market size	6/25	<ul style="list-style-type: none"> Urban population (URBANPOP) Electricity production (ELECPROD)
Market growth rate	4/25	<ul style="list-style-type: none"> Annual growth in commercial energy use (ENRGCNGR) GDP real growth rate (GDPGRWTH)
Market intensity	3/25	<ul style="list-style-type: none"> % of Urban Population (URBANZTN) GDP per capita (GDPPC)
Commercial infrastructure/access to consumer	3/25	<ul style="list-style-type: none"> TV sets (TVSETS) Radio sets (RDIOSETS) Internet hosts (INTERNET) Telephone mainlines (PHONEDEN) Paved road density (PAVDROAD)
Market receptivity	3/25	<ul style="list-style-type: none"> U.S. imports per capita (USIMPPC) Trade as %GDP (OPENNESS)
Free market structure	3/25	<ul style="list-style-type: none"> Index of economic freedom (HERITAGE)—reversed Survey of political freedom (FRDMHOUS)—reversed
Country risk	3/25	<ul style="list-style-type: none"> <i>Euromoney</i> Country risk ratings (CNTRYRSK)

where X_{ij} is the average score of country j on dimension i ; X'_{ij} is the scaled final value of country j for the dimension i ; \min_i is the minimum value for dimension i ; and R_i is the range of dimension i . This conversion is done to provide a better and more intuitive interpretation of the index. Finally, for each dimension and the overall market opportunity index, the countries have been rank ordered. The final composite index indicates aggregate market potential of foreign markets from the perspective of U.S. exporters.

The complete index and rankings are revealed in Table 5. It is important to note that the ranking has been accomplished in a generic, aggregate manner to illustrate the market potential approach. Managers wishing to use the technique should carefully select additional dimensions or measures that more closely represent desirable market characteristics for specific products or services. The dimensions can easily be constructed from industry- or product-specific data, if these are available. Managers also can adjust the weights of the dimensions according to the requirements of their product or industry. Similarly, they can choose to use not only the overall indices but also individual dimensions for the purpose of establishing market entry priorities.

3.3. Country clustering or country ranking?

Which of the two approaches to preliminary market assessment should the manager use? The answer clearly depends on the overall objective of managers. A firm that wishes to standardize offerings and marketing strategy across different markets should pay more attention to the results of the cluster analysis because this technique provides insights into structural similarities among markets. Cluster analysis can be a powerful tool for segmenting world markets according to indicators relevant to a company's business prospects. On the other hand, a firm that wishes to identify the best possible market to enter should lean toward the ranking approach as a way to determine the few countries that deserve the in-depth attention.

An extremely attractive option, however, is to use both approaches. In combination, they provide unique and highly valuable information that does not overlap. Clustering produces structurally similar groups but does not reveal much about market potential. Ranking identifies the most attractive markets (generically speaking, or for individual firms/industries, if the variables are customized), but does not help the manager understand similarities and differences among them. Therefore, using only one method may lead to

Table 6
A combination of country clusters and market potential rankings

Cluster 1	Rank	Cluster 4	Rank	Cluster 6	Rank	Cluster 7	Rank
Mozambique	59	Mexico	34	Singapore	4	Japan	3
Senegal	81	Thailand	47	Ireland	5	Germany	7
Bangladesh	85	Georgia	49	Korea, South	17	United Kingdom	7
Yemen	87	Turkey	49	Spain	17	Belgium	9
Nepal	88	Philippines	52	Chile	25	Netherlands	11
Kenya	88	Peru	55	Portugal	25	Hong Kong	12
		Jordan	58	Estonia	28	France	14
Cluster 2	Rank	Albania	61	Slovenia	29	Denmark	16
South Africa	47	Armenia	61	UAE	31	Switzerland	17
Egypt	65	Ukraine	61	Greece	32	Austria	22
Honduras	65	Azerbaijan	70	Czech Republic	34	Italy	22
Morocco	65	Sri Lanka	70	Hungary	34	Israel	24
Ghana	76	Moldova	73	Poland	34		
Indonesia	76	Belarus	76	Costa Rica	38	Cluster 8	Rank
Algeria	80	Mongolia	81	Latvia	39	Canada	1
Nigeria	84			Lithuania	44	Australia	6
Pakistan	86	Cluster 5	Rank	Panama	46	Finland	9
		Russia	27			Sweden	12
Cluster 3	Rank	Brazil	29			Norway	15
Malaysia	33	Argentina	39			New Zealand	20
Slovak Republic	41	Uruguay	41				
Dominican Rep.	54	Kuwait	43			Cluster 9	Rank
Tunisia	57	Croatia	44			China	2
Vietnam	76	Bolivia	49			India	21
Syria	83	Saudi Arabia	53				
		El Salvador	55				
		Venezuela	60				
		Colombia	61				
		Bulgaria	65				
		Guatemala	65				
		Paraguay	70				
		Ecuador	74				
		Romania	74				

suboptimal decisions. Table 6 is a simple, yet intuitive presentation of clusters and rankings for illustrative purposes. This kind of analysis is helpful to a manager who is curious about how market attractiveness rankings vary within and among clusters. For example, both Canada and Sweden fall into Cluster 8, but Canada possesses a much greater degree of market potential. Similarly, a firm already operating in Netherlands may decide to focus on Switzerland rather than Sweden, since Netherlands and Switzerland exhibit structural similarities although Sweden is ranked higher.

4. Directions for future extensions

The methodology for ranking the country market potential illustrated in this study is suitable primarily for exporters who need to consider tariffs and quotas, intellectual property rights, exchange rate stability, and availability of qualified intermediaries, among others (Cavusgil, 1985). A similar ranking can be developed by multinational companies considering foreign direct investment (FDI). Such an extension could be created with relative ease, enhancing the applicability of the approach to a broader set of international firms. When the preferred mode of market entry is FDI, the literature identifies unique factors that need to be considered, such as ownership requirements, political stability, tax incentives, availability and cost of labor, availability of natural resources, local content requirements, and restrictions on repatriation (Albaum, Strandkov, Duerr, & Dowd, 1994). Developing an FDI ranking would not only increase the applicability of the approach but would also illustrate how it can be modified for specific purposes.

With regard to clustering, two additional variables may be incorporated in future work. Marketers have long accepted that culture is a critical consideration in international marketing strategy. When managers are asked why they target a particular foreign market, the overwhelming response relates to psychic or cultural distance. This factor has not been included in clustering studies because data are not readily available due to the difficulty of measuring and identifying cultural groupings for a large number of countries. Sriram and Gopalakrishna (1991) use Hofstede's (1980) cultural indicators in an attempt to identify homogeneous clusters for which advertising may be standardized. Yet, Hofstede's work is limited to 50 countries and has not been updated since 1983, raising doubts about its relevance in the contemporary environment.

Jain (1996) suggests that religion can serve as a surrogate for culture, since it is an important element of any society and has a significant influence on lifestyles. Similarly, Simon (1996) believes that the importance of language has been grossly underrated. He found that the "hidden champions" of the world saw language as one of the most obvious barriers to globalization and is thus a critical factor to approach proactively. Language also could be a surrogate

for culture. Yet, these two variables may be too influential on cluster structure, resulting in groupings by religion or language only. A further complication is that many countries have multiple official and unofficial languages and religions. Nevertheless, culture is a principal driver of international business activity and should be considered in future analyses.

Another variable worthy of examination is a country's participation in regional trade blocs and free-trade agreements, which has had a dramatic effect on global trade. There is no question that countries in the same trading bloc are very similar, and it is important that this variable be considered in clustering. However, some practical difficulties remain. A scheme must be found for coding all free-trade arrangements among individual countries into the data set. This is most likely to be done with binary variables, but their use requires $k - 1$ variables to cover each case. Considering the number of trade agreements in the world, this may be a very challenging problem. Furthermore, current statistical software has extremely limited support for data sets that incorporate both integer and binary variables, which makes the analysis even more complex and challenging.

5. Conclusion

Screening and pinpointing attractive country markets for entry can be an overwhelming task for international marketing executives, given the number of choices available and the number of decision variables. Managers require a systematic approach to guide them through the process. The two methods described here provide the international marketer and the scholar alike with objective and comprehensive analytical techniques for evaluating markets.

Indexing focuses on relative market attractiveness by considering seven dimensions of overseas potential. It allows us to rank countries in terms of their market appeal. Managers can choose to weigh these factors to reflect the specific characteristics of their own business or project. In addition, the dimensions and variables can be changed to fit specific industries, businesses, or projects. While the rankings are useful in setting target markets priorities, they do not help determine the specific strategies to employ once the markets are chosen. Clustering fills that need by placing countries into homogeneous groups with meaningful similarities.

The aim of this study is not merely to provide a list of countries that are meritorious candidates for market entry. Rather, the objective is to reduce the complexity of market selection by demonstrating the use of analytical approaches based on readily available secondary data. Finally, it should be emphasized that indexing and clustering represent an excellent start for country screening and evaluation, but more detailed and refined analysis is necessary once the candidate countries are reduced to a manageable number.

Such in-depth analysis is also imperative for the subsequent formulation of an international market entry program.

References

- Albaum, G., Strandskov, J., Duerr, E., & Dowd, L. (1994). *International marketing and export management* (2nd ed.). Reading, MA: Addison-Wesley.
- Business International (1992, July). *Indicators of market size for 117 countries*, 205–216.
- Cavusgil, S.T. (1985). Guidelines for export market research. *Business Horizons*, 28(6), 27–33.
- Cavusgil, S. T. (1990). A market-oriented clustering of countries. In H. B. Cavusgil, & S. T. Cavusgil (Eds.), *International marketing strategy* (3rd ed.) (pp. 201–211). New York: Pergamon.
- Cavusgil, S. T. (1997a). Market potential indicators for emerging markets [Online]. <http://globaledge.msu.edu/ibrd/marketpot.asp>.
- Cavusgil, S. T. (1997, January–Februaryb). Measuring the potential of emerging markets: An indexing approach. *Business Horizons*, 40, 87–91.
- Cavusgil, S. T., & Nevin, J. R. (1981). State-of-the-art in international marketing: An assessment. In B. M. Enis, & K. J. Roering (Eds.), *Review of marketing 1981* (pp. 195–216). Chicago, IL: American Marketing Association.
- Cundiff, E. W., & Hilger, M. T. (1984). *Marketing in the international environment*. Englewood Cliffs, NJ: Prentice-Hall.
- Day, D. L., Yip, G. S., & Christmann, P. (1995). *Does country matter? Determinants of MNC performance*. UCLA Center for International Business Education and Research Working Paper Series, 95–2.
- Day, E., Fox, R. J., & Huszagh, S. M. (1988, Autumn). Segmenting the global market for industrial goods: Issues and implications. *International Marketing Review*, 5, 14–27.
- Douglas, S. P., & Craig, C. S. (1983). *International marketing research*. Englewood Cliffs, NJ: Prentice-Hall.
- Douglas, S. P., & Craig, C. S. (1995). *Global marketing strategy*. New York: McGraw-Hill.
- Hair Jr., J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis* (4th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Harrell, G. D., & Kiefer, R. O. (1981, Winter). Multinational strategic market portfolios. *MSU Business Topics*, 5–15.
- Helsen, K., Jedidi, K., & DeSarbo, W. S. (1993, October). A new approach to country multivariate data analysis segmentation utilizing multinational diffusion patterns. *Journal of Marketing*, 57, 60–71.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Huszagh, S. M., Fox, R. J., & Day, E. (1985). Global marketing: An empirical investigation. *Columbia Journal of World Business* (Twentieth anniversary issue), 31–43.
- Jain, S. C. (1996). *International marketing management* (5th ed.). Cincinnati, OH: South-Western.
- Kale, S. H., & Sudharshan, D. (1987, Summer). A strategic approach to international segmentation. *International Marketing Review*, 4, 60–70.
- Liander, B., Terpstra, V., Yoshino, M., & Sherbini, A. A. (1967). *Comparative analysis for international marketing*. Boston: Allyn and Bacon.
- Luqmani, M., Yavas, U., & Quraeshi, Z. (1994). A convenience-oriented approach to country segmentation. *Journal of Consumer Marketing*, 11(4), 29–40.
- Papadopoulos, N., & Denis, J.-E. (1988, Autumn). Inventory, taxonomy and assessment of methods for international market selection. *International Marketing Review*, 5, 38–51.
- Samli, A. C. (1977). An approach for estimating market potential in East Europe. *Journal of International Business Studies*, 8(2), 49–53.
- Sethi, S. P. (1971, August). Comparative cluster analysis for world markets. *Journal of Marketing Research*, 8, 348–354.
- Sethi, S. P., & Holton, R. H. (1969, November). Review of Bertil Liander, et al., comparative analysis for international marketing. *Journal of Marketing Research*, 6, 502–503.
- Sharma, S. (1996). *Applied multivariate techniques*. New York: Wiley.
- Simon, H. (1996). *Hidden champions: Lessons from 500 of the world's best unknown companies*. Boston, MA: Harvard Business School Press.
- Sriram, V., & Gopalakrishna, P. (1991). Can advertising be standardized among similar countries? A cluster-based analysis. *International Journal of Advertising*, 10(2), 137–149.
- Tixier, M. (1994). Management and communication styles in Europe: Can they be compared and matched? *Employee Relations*, 16(1), 8–26.