

Example tailor made location search based on LocationRank[®] methodology

Scenario: Location search to determine the most optimal location for market development, sales support and back-office functions in the Middle East, Mediterranean and Africa (MEMA)

Ranking study conducted January 2008

Mandate

The objective of the study was to perform a location analysis in order to be able to determine the most optimal location for our client in the Middle East, Mediterranean and Africa (MEMA) region.

The main criteria on which the location search is based got reduced to the following indicators: market labour costs, labour productivity, ICT infrastructure, labour market regulations, graduate availability, political stability, cost of living and attractiveness for multinational corporations. Data on several variables related to these criteria have been collected and evaluated. The following set of countries and cities are selected for the long-list for the analysis:

| | Country | City |
|----|----------------------|---------------|
| 1 | Bahrain | Manama |
| 2 | Egypt | Cairo |
| 3 | Ghana | Accra |
| 4 | Jordan | Amman |
| 5 | Mauritius | Port Louis |
| 6 | Morocco | Casablanca |
| 7 | Morocco | Tanger |
| 8 | Nigeria | Lagos |
| 9 | Oman | Muscat |
| 10 | Poland | Wroclaw |
| 11 | Romania | Bucharest |
| 12 | Saudi Arabia | Riyadh |
| 13 | Senegal | Dakar |
| 14 | Tunisia | Tunis |
| 15 | Turkey | Istanbul |
| 16 | United Arab Emirates | Abu Dhabi |
| 17 | United Arab Emirates | Dubai |
| 18 | United Arab Emirates | Ras Al Khayma |

• *Throughout the report, we will consider Poland, Romania and the United Arab Emirates – Dubai as benchmark locations.*

Methodology

Countries' and cities' data variables have been combined into several classes of decision criteria. A specific priority has been assigned to each of these criteria. The priority settings are based upon the multinational's management requirements. The priorities range from 1 to 6: 1 =high, 6 =low.

Seven decision criteria have been taken into account; each assigned a specific priority.

| | Decision criteria | Priority | Weight |
|---|---|----------|--------|
| 1 | Market labour costs and productivity | 1 | 35% |
| 2 | ICT infrastructure | 2 | 20% |
| 3 | Labour market regulations | 3 | 15% |
| 4 | Labour market and graduate availability | 4 | 10% |
| 5 | Political stability | 4 | 10% |
| 6 | Cost of living | 5 | 7% |
| 7 | Attractiveness | 6 | 3% |

• Throughout the report, all variables are rescaled in the sense that is most favourable for the company, e.g. the lowest labour cost location is highest in ranking in the labour cost category.

Ranking Overview

Market labour costs and productivity

As we are looking for the labour market with the most attractive employment costs, related parameters are grouped within two categories or decision criteria: the market labour costs and labour productivity.

Market labour costs

The total market labour costs for the IT sector we use throughout the report are comprised of the average annual salary figures, which are fully loaded costs, i.e. employer's social security contributions are included.

Within the market labour cost category, we will analyse following input variables:

- Total annual market labour costs (in €)
- GDP per capita (in €)
- GDP growth rate

The gross yearly salary figures are based upon official statistics for the IT sector, which is comprised of the following activities:

- Computer related activities, ranging from hardware and software consultancy and supply, over data processing, database activities to maintenance and repair of office, accounting and computing machinery.
- Research and development

Rankin market Labour cost

| Rank | Country |
|------|--------------------------------------|
| 1 | Egypt - Cairo |
| 2 | Jordan - Amman |
| 3 | Tunisia - Tunis |
| 4 | Morocco - Casablanca |
| 5 | Morocco - Tanger |
| 6 | Saudi Arabia - Riyadh |
| 7 | Ghana - Accra |
| 8 | Romania - Bucharest |
| 9 | Senegal - Dakar |
| 10 | Poland - Wroclaw |
| 11 | Nigeria - Lagos |
| 12 | Oman - Muscat |
| 13 | United Arab Emirates - Dubai |
| 14 | United Arab Emirates - Ras Al Khayma |
| 15 | United Arab Emirates - Abu Dhabi |
| 16 | Bahrain - Manama |
| 17 | Turkey - Istanbul |
| 18 | Mauritius - Port Louis |

| | | labour costs | GDP per Capita | GDP growth rate |
|---|------------------------------|--------------|----------------|-----------------|
| 1 | Jordan – Amman | 8525 | 3476 | 6.40 |
| 2 | Saudi Arabia - Riyadh | 13588 | 9415 | 4.30 |
| 3 | Romania - Bucharest | 15417 | 6129 | 7.70 |
| 4 | Poland – Wroclaw | 17151 | 9699 | 6.10 |
| 5 | United Arab Emirates - Dubai | 18605 | 33475 | 8.90 |
| 6 | Bahrain - Manama | 18860 | 17264 | 7.10 |

Cairo and Amman are the least expensive locations, Port Louis and Istanbul the most expensive ones.

- Labour costs in Cairo amount 6156 € and are 10995 € cheaper than Wroclaw, 9261 € cheaper than in Bucharest and 12449 € cheaper than Dubai.
- Labour costs in Amman amount 8525 € and are 8626 € cheaper than Wroclaw, 6892 € cheaper than in Bucharest and 10080 € cheaper than in Dubai.
- Annual labour costs in Manama are 1709 € more expensive than in Wroclaw, 3443 € more expensive than in Bucharest and 255 € more expensive than in Dubai.
- Port Louis is with 36127 € the most expensive city among the locations in scope.

Furthermore, we calculated the cost differentials with Poland, Romania and the United Arab Emirates (Dubai) as a benchmark for the total annual market labour costs.

| Cost differentials vs Poland | | |
|------------------------------|--------------------------------------|---------|
| 1 | Egypt - Cairo | -64.11% |
| 2 | Jordan - Amman | -50.30% |
| 3 | Tunisia - Tunis | -29.11% |
| 4 | Morocco - Casablanca | -26.28% |
| 5 | Morocco - Tanger | -22.28% |
| 6 | Saudi Arabia - Riyadh | -20.77% |
| 7 | Ghana - Accra | -12.16% |
| 8 | Romania - Bucharest | -10.11% |
| 9 | Senegal - Dakar | -6.67% |
| 10 | Poland - Wroclaw | 0.00% |
| 11 | Nigeria - Lagos | 1.64% |
| 12 | Oman - Muscat | 2.62% |
| 13 | United Arab Emirates - Ras Al Khayma | 8.48% |
| 14 | United Arab Emirates - Dubai | 8.48% |
| 15 | United Arab Emirates - Abu Dhabi | 9.83% |
| 16 | Bahrain - Manama | 9.96% |
| 17 | Turkey - Istanbul | 39.43% |
| 18 | Mauritius - Port Louis | 110.64% |

Cairo is 64% cheaper than Wroclaw; Port Louis is 111% more expensive.

| Cost differentials vs Romania | | |
|-------------------------------|--------------------------------------|---------|
| 1 | Egypt - Cairo | -60.07% |
| 2 | Jordan - Amman | -44.71% |
| 3 | Tunisia - Tunis | -21.14% |
| 4 | Morocco - Casablanca | -17.99% |
| 5 | Morocco - Tanger | -13.54% |
| 6 | Saudi Arabia - Riyadh | -11.86% |
| 7 | Ghana - Accra | -2.28% |
| 8 | Romania - Bucharest | 0.00% |
| 9 | Senegal - Dakar | 3.82% |
| 10 | Poland - Wroclaw | 11.25% |
| 11 | Nigeria - Lagos | 13.07% |
| 12 | Oman - Muscat | 14.16% |
| 13 | United Arab Emirates - Ras Al Khayma | 20.68% |
| 14 | United Arab Emirates - Dubai | 20.68% |
| 15 | United Arab Emirates - Abu Dhabi | 22.19% |
| 16 | Bahrain - Manama | 22.33% |
| 17 | Turkey - Istanbul | 55.11% |
| 18 | Mauritius - Port Louis | 134.33% |

Cairo is 60% cheaper than Bucharest; Port Louis is 134% more expensive.

Cost differentials vs Dubai

| | | |
|----|--------------------------------------|---------|
| 1 | Egypt - Cairo | -66.91% |
| 2 | Jordan - Amman | -54.18% |
| 3 | Tunisia - Tunis | -34.65% |
| 4 | Morocco - Casablanca | -32.04% |
| 5 | Morocco - Tanger | -28.36% |
| 6 | Saudi Arabia - Riyadh | -26.96% |
| 7 | Ghana - Accra | -19.02% |
| 8 | Romania - Bucharest | -17.14% |
| 9 | Senegal - Dakar | -13.97% |
| 10 | Poland - Wroclaw | -7.82% |
| 11 | Nigeria - Lagos | -6.31% |
| 12 | Oman - Muscat | -5.40% |
| 13 | United Arab Emirates - Ras Al Khayma | 0.00% |
| 14 | United Arab Emirates - Dubai | 0.00% |
| 15 | United Arab Emirates - Abu Dhabi | 1.25% |
| 16 | Bahrain - Manama | 1.37% |
| 17 | Turkey - Istanbul | 28.53% |
| 18 | Mauritius - Port Louis | 94.18% |

Cairo is 67% cheaper than Dubai; Port Louis is 94% more expensive.

Labour Productivity

In this class, the following criterion has been evaluated: Labour productivity per person employed.

Ranking labour productivity per person employed

| Rank | Country |
|------|----------------------|
| 1 | Bahrain |
| 2 | Oman |
| 3 | Saudi Arabia |
| 4 | United Arab Emirates |
| 5 | Poland |
| 6 | Mauritius |
| 7 | Morocco |
| 8 | Tunisia |
| 9 | Turkey |
| 10 | Romania |
| 11 | Jordan |
| 12 | Egypt |
| 13 | Ghana |
| 14 | Senegal |
| 15 | Nigeria |

| | | Labour productivity |
|---|----------------------|---------------------|
| 1 | Bahrain | 58.09 |
| 2 | Saudi Arabia | 46.29 |
| 3 | United Arab Emirates | 43.63 |
| 4 | Poland | 33.05 |
| 5 | Romania | 22.84 |
| 6 | Jordan | 19.86 |

Labour costs tend to be negatively correlated with labour productivity. The previous ranking showed that the levels of labour costs vary considerably across the countries in scope. However, this ranking did not take into account the difference in labour productivity between countries. Labour productivity is defined as the value generated by any unit engaged in a productive activity. Speaking broadly, lower levels of labour costs are associated with lower levels of labour productivity and vice versa.

Hence, low labour cost countries show lower than average productivities in comparison with high labour cost countries. Bahrain and Oman show the highest labour productivity among the locations in scope; Nigeria and Senegal the lowest one.

- Bahrain and Saudi Arabia show a higher labour productivity than the United Arab Emirates, Poland and Romania.
- Jordan shows a lower labour productivity per person employed in comparison with the United Arab Emirates, Poland and Romania.
- Labour productivity is far below average in Nigeria and Senegal.

Combined ranking

A combined index has been constructed, based on the labour costs and productivity data.

Ranking labor cost and productivity

| Rank | Country |
|------|--------------------------------------|
| 1 | Saudi Arabia - Riyadh |
| 2 | Bahrain - Manama |
| 3 | Oman - Muscat |
| 4 | Egypt - Cairo |
| 5 | Jordan - Amman |
| 6 | Morocco - Casablanca |
| 7 | United Arab Emirates - Ras Al Khayma |
| 8 | United Arab Emirates - Dubai |
| 9 | Morocco - Tanger |
| 10 | United Arab Emirates - Abu Dhabi |
| 11 | Tunisia - Tunis |
| 12 | Poland - Wroclaw |
| 13 | Romania - Bucharest |
| 14 | Ghana - Accra |
| 15 | Senegal - Dakar |
| 16 | Turkey - Istanbul |
| 17 | Nigeria - Lagos |

| | | labour costs and productivity index |
|---|------------------------------|-------------------------------------|
| 1 | Saudi Arabia – Riyadh | 0.7804 |
| 2 | Bahrain - Manama | 0.7321 |
| 3 | Jordan - Amman | 0.3432 |
| 4 | United Arab Emirates - Dubai | 0.2895 |
| 5 | Poland - Wroclaw | 0.0683 |
| 6 | Romania - Bucharest | -0.1185 |

Saudi Arabia and Bahrain perform best on the combined labour cost and productivity ranking; Mauritius and Nigeria perform worst.

- Saudi Arabia and Bahrain score significantly higher than average and perform better than the United Arab Emirates, Poland and Romania.
- Mauritius and Nigeria perform far below average on the combined index.
- The average of the index is 0.

ICT infrastructure

Concerning the ICT infrastructure, we will evaluate four parameters:

- Telephones – main lines in use per thousand inhabitants
- Telephones – mobile cellular per thousand inhabitants
- Internet users per thousand inhabitants
- Internet hosts per thousand inhabitants

Ranking ICT Infrastructure

| Rank | Country |
|------|----------------------|
| 1 | Poland |
| 2 | Jordan |
| 3 | United Arab Emirates |
| 4 | Romania |
| 5 | Bahrain |
| 6 | Mauritius |
| 7 | Turkey |
| 8 | Saudi Arabia |
| 9 | Tunisia |
| 10 | Morocco |
| 11 | Egypt |
| 12 | Oman |
| 13 | Senegal |
| 14 | Nigeria |
| 15 | Ghana |

| | | Tel. - main lines in use | Tel. - mobile cellular | Internet hosts | Internet users |
|---|---------------|--------------------------|------------------------|----------------|----------------|
| 1 | Poland | 298 | 954 | 147.489 | 286 |
| 2 | Jordan | 101 | 717 | 0.413 | 132 |
| 3 | U.A. Emirates | 295 | 642 | 1.350 | 385 |
| 4 | Romania | 197 | 599 | 63.117 | 227 |
| 5 | Bahrain | 273 | 1269 | 3.405 | 222 |
| 6 | Saudi Arabia | 163 | 712 | 0.666 | 170 |

The Eastern European and Middle East countries perform best; the African countries perform less than average.

- Poland scores maximum on telephones (main lines in use) and internet hosts and performs better than average on the other two parameters.
- Romania scores higher than average on all parameters except for the use of mobile phones.
- The United Arab Emirates score higher than average on telephones (main lines in use) and internet users.
- Bahrain has the highest number of mobile phones in use among the countries in scope and has a higher than average number of landlines and internet users, but scores significantly lower on the amount of internet hosts. With its highly developed communication and transport facilities, Bahrain is home to multinational firms.
- Saudi Arabia scores on average on landlines in use; higher than average on mobile phones in use but lower than average on internet hosts and internet users.
- Ghana and Nigeria perform lower than average on all parameters.

Labour market regulations

This class contains the main indicators measuring the flexibility of labour laws governing the relationship between employers and employees. They include:

- Difficulty of hiring a new worker (Difficulty of hiring index)
- Restrictions on expanding or contracting the number of working hours (Rigidity of hours index)
- Difficulty and expense of dismissing a redundant worker (Difficulty of Firing index)
- Cost of a redundant worker, expressed in weeks of wages (Firing costs)

These criteria give an indication on the difficulty of hiring a new worker, the difficulty and expense of dismissing a redundant worker and the restrictions on expanding or contracting the number of working hours (employment conditions). Conditions covered by these indices include working time requirements, minimum wage laws, and minimum conditions of employment.

Ranking labor market regulation

| Rank | Country |
|------|----------------------|
| 1 | Nigeria |
| 2 | Oman |
| 3 | Mauritius |
| 4 | Jordan |
| 5 | Bahrain |
| 6 | Saudi Arabia |
| 7 | United Arab Emirates |
| 8 | Poland |
| 9 | Egypt |
| 10 | Tunisia |
| 11 | Turkey |
| 12 | Senegal |
| 13 | Romania |
| 14 | Ghana |
| 15 | Morocco |

| | Difficulty of hiring | Rigidity of hours | Difficulty of Firing | Firing costs |
|------------------------|----------------------|-------------------|----------------------|--------------|
| 1 Jordan | 11 | 20 | 60 | 4 |
| 2 Bahrain | 0 | 40 | 0 | 80 |
| 3 Saudi Arabia | 0 | 40 | 0 | 80 |
| 4 United Arab Emirates | 0 | 60 | 0 | 84 |
| 5 Poland | 11 | 60 | 40 | 13 |
| 6 Romania | 78 | 80 | 40 | 8 |

Nigeria and Oman have the most flexible labour regulations, Morocco and Ghana the most rigid ones.

- Nigeria scores best on all four criteria.
- Jordan scores significantly better than average on firing costs, the rigidity of hours index and the difficulty of hiring index.
- Bahrain and Saudi Arabia score better than average on the first three criteria; but lower than average on firing costs.
- Poland scores worse than average on the rigidity of hours index and the difficulty of firing index.
- Romania's labour legislation is less flexible than average on the first three parameters but scores slightly better on firing costs.
- The United Arab Emirates score better than average on the difficulty of hiring and firing index but worse than average on the other two parameters.

Labour market and graduate availability

As one of the most important criteria in making a location decision, consists in the ability to hire employees with the required skills, we will evaluate the following parameters:

- The number of students enrolled in science studies.
- The number of science graduates.
- The number of students enrolled in engineering studies.
- The number of engineering graduates.
- The total number of students enrolled in tertiary education.
- Degree holders or the total number of graduates available.
- The number of universities.
- The literacy rate.
- The labour supply or total active population.
- The unemployment rate.

Concerning this decision criterion, the nominal availability of science and engineering graduates has been taken into account.

The larger the amount of graduates enrolled in science and engineering studies on the one hand and the amount of science and engineering graduates available plus the other parameters on the other hand, the higher the location will be ranked.

Ranking labor market and graduate availability

| Rank | Country |
|------|----------------------|
| 1 | Poland |
| 2 | Egypt |
| 3 | Turkey |
| 4 | Nigeria |
| 5 | Romania |
| 6 | Saudi Arabia |
| 7 | Jordan |
| 8 | Morocco |
| 9 | Tunisia |
| 10 | United Arab Emirates |
| 11 | Ghana |
| 12 | Mauritius |
| 13 | Oman |
| 14 | Bahrain |
| 15 | Senegal |

| | | Graduates | Enrolment | Graduates in | Enrolment in | University | degree holders |
|---|---------|-----------|-----------|--------------|--------------|------------|----------------|
| 1 | Poland | 33531 | 174751 | 37304 | 248542 | 2118081 | 501393 |
| 2 | Romania | 7769 | 34713 | 27501 | 150203 | 738806 | 156565 |
| 3 | Saudi | 12998 | 85391 | 2110 | 19780 | 603672 | 82659 |
| 4 | Jordan | 8170 | 22996 | 3755 | 25087 | 217823 | 42294 |
| 5 | United | 1471 | 7500 | 1203 | 6136 | 68182 | 13369 |
| 6 | Bahrain | 308 | 1698 | 326 | 1589 | 18841 | 3184 |

| | | Colleges - | Literacy | Labour supply - Active | Unemployment |
|---|--------------|------------|----------|------------------------|--------------|
| 1 | Poland | 123 | 99.8 | 16776 | 14.9 |
| 2 | Romania | 56 | 97.3 | 8852 | 6.1 |
| 3 | Saudi Arabia | 37 | 78.8 | 8025 | 13 |
| 4 | Jordan | 24 | 89.9 | 1512 | 15.4 |
| 5 | United Arab | 23 | 77.9 | 2968 | 2.4 |
| 6 | Bahrain | 9 | 86.5 | 308 | 15 |

Poland has the largest labour pool at its disposal. Senegal scores least favourable

- Poland has the highest number of graduates in science, the largest amount of degree holders and the highest number of universities. Furthermore, it scores better than average on all criteria investigated.
- Romania scores higher than average on six of ten criteria.
- Saudi Arabia scores higher than average on five of ten criteria. It has a higher number than average on graduates and enrolments in science, and a higher than average number of universities, literacy and unemployment rate.
- Jordan only performs higher than average on the literacy and unemployment rate.
- The United Arab Emirates score lower than average on all parameters except for the literacy rate.
- Bahrain shows lower than average figures on all parameters except for the unemployment rate. It has the minimum number of graduates in science and engineering, enrolments in engineering, degree holders and active population among the countries in scope. Considering the country's small size and population, these figures are not so surprisingly.
- Senegal scores lower than average on all criteria except for the unemployment rate.

Political stability

Furthermore, we evaluate the following socio-economical criteria:

- Political stability index.
- Index of economic freedom.
- Corruption perception index.

The corruption perception index relates to the perceptions on the degree of corruption as seen by business people, academics and risk analysts. It includes police corruption, business corruption and political corruption.

The index of economic freedom measures:

- Corruption in the judiciary, customs service, and government bureaucracy
- Non-tariff barriers to trade, such as import bans and quotas
- Efficiency within the judiciary, and the ability to enforce contracts
- Regulatory burdens on business
- Informal market activities, including corruption, smuggling, piracy of IP-rights.

Ranking political stability

| Rank | Country |
|------|----------------------|
| 1 | Mauritius |
| 2 | Bahrain |
| 3 | United Arab Emirates |
| 4 | Oman |
| 5 | Jordan |
| 6 | Poland |
| 7 | Tunisia |
| 8 | Romania |
| 9 | Saudi Arabia |
| 10 | Ghana |
| 11 | Turkey |
| 12 | Senegal |
| 13 | Morocco |
| 14 | Egypt |
| 15 | Nigeria |

| | | Political stability Index | of | Corruption perception index |
|---|----------------------|---------------------------|------|-----------------------------|
| 1 | Bahrain | 0.31 | 68.4 | 5 |
| 2 | United Arab Emirates | 0.95 | 60.4 | 5.7 |
| 3 | Jordan | -0.44 | 64 | 4.7 |
| 4 | Poland | 0.71 | 58.8 | 4.2 |
| 5 | Romania | 0.42 | 61.3 | 3.7 |
| 6 | Saudi Arabia | 0.05 | 59.1 | 3.4 |

Mauritius and Bahrain perform best in terms of political stability; Nigeria and Egypt score least favourable.

- Bahrain scores better than average on all parameters. Bahrain has the freest economy in the Middle East according to the 2006 Index of Economic Freedom.
- The United Arab Emirates score significantly higher than average on the political stability index and the corruption perception index.
- Jordan scores higher than average on the index of economic freedom and the corruption perception index.
- Poland performs higher than average on the political stability index, slightly lower than average on the index of economic freedom and slightly higher than average on the corruption perception index.
- Romania performs higher than average on the political stability index, slightly higher than average on the index of economic freedom and slightly lower than average on the corruption perception index.
- Saudi Arabia shows lower than average figures on all criteria.
- Nigeria scores the minimum on the three parameters and is least favourable among the locations in scope.

Cost of living

Considering cost of living, we will evaluate five criteria:

- Housing costs
- Utilities' costs
- Consumer price index, rent indices
 - (The rent index gives an indication of how much rental prices have risen since the year 2000.)
- Inflation
- Currency risk

Ranking cost of living

| Rank | Country |
|------|--------------|
| 1 | Egypt |
| 2 | Tunisia |
| 3 | Nigeria |
| 4 | Morocco |
| 5 | Jordan |
| 6 | Romania |
| 7 | Mauritius |
| 8 | Poland |
| 9 | Saudi Arabia |
| 10 | Senegal |
| 11 | Bahrain |
| 12 | Oman |
| 13 | Ghana |
| 14 | Turkey |

| | | housing | utilities | real | Inflation | Currency risk |
|---|----------------------|---------|-----------|-------|-----------|---------------|
| 1 | Jordan | 587 | 175 | 110.8 | 6.20 | 0.055913 |
| 2 | Romania | 631 | 193 | 216.7 | 6.60 | 0.018759 |
| 3 | Poland | 904 | 250 | 142.0 | 1.00 | 0.017911 |
| 4 | Saudi Arabia | 1051 | 287 | 100.9 | 2.20 | 0.010567 |
| 5 | Bahrain | 1000 | 147 | 129.6 | 2.10 | 0.106261 |
| 6 | United Arab Emirates | 1053 | 272 | 130.1 | 13.50 | 0.010897 |

Egypt and Tunisia score best on all criteria; the United Arab Emirates and Turkey perform least favourable.

- In Egypt, housing costs, utilities' costs, rental price raises and currency risk are considerably lower than average. The increase in rental prices since 2000 amounts 8.4%. Inflation is with 7.7% above average.
- The United Arab Emirates score least favourable, which gives an indication of the fact housing costs are highest and rental prices relatively increased more than average in comparison with the other locations in scope. The increase in rental price was 30%. Inflation is with 13.50% highest among the counties in scope and utilities' costs were higher than average.
- Poland shows higher than average housing and utilities' costs, but lower than average rental increases, inflation and currency risk.

- Romania shows slightly lower than average housing and utilities' costs, inflation and currency risk, but higher than average rental increases.
- Jordan performs lower than average on all parameters.
- Saudi Arabia scores second highest in housing costs. With 2.20%, inflation is significantly lower than average.
- Bahrain has significantly higher than average housing costs and currency risk, but performs better than average on the other criteria.

Location attractiveness

In this section, we will evaluate the location attractiveness considering three criteria:

- Quality of life index
- Foreign direct investment
- Presence of transnational corporations

Concerning the presence of transnational corporations, we take the number of foreign affiliates to transnational corporations into account. The more affiliates present, the higher the competition.

The determinants of the quality of life index are: material wellbeing, health, political stability and security, family life, community life, climate and geography, job security, political freedom and gender equality.

Ranking location attractiveness

| Rank | Country |
|------|----------------------|
| 1 | Turkey |
| 2 | Poland |
| 3 | Saudi Arabia |
| 4 | United Arab Emirates |
| 5 | Morocco |
| 6 | Egypt |
| 7 | Bahrain |
| 8 | Oman |
| 9 | Mauritius |
| 10 | Jordan |
| 11 | Tunisia |
| 12 | Ghana |
| 13 | Nigeria |
| 14 | Romania |
| 15 | Senegal |

| | | Quality of life | FDI | Number of foreign affiliates to transnational |
|---|----------------------|-----------------|--------|---|
| 1 | Poland | 6.309 | 104.20 | 35840 |
| 2 | Saudi Arabia | 5.767 | 63.16 | 423 |
| 3 | United Arab Emirates | 5.899 | 42.58 | 59 |
| 4 | Bahrain | 6.035 | 11.55 | 28 |
| 5 | Jordan | 5.675 | 8.15 | 8 |
| 6 | Romania | 6.105 | 40.69 | 71318 |

Turkey and Poland are most favourable in terms of attractiveness; Senegal and Romania are least favourable.

- Poland has the highest quality of life and foreign direct investment but competition is significantly higher than average.
- Saudi Arabia performs better than average on quality of life and FDI and has a lower than average number of foreign affiliates to transnational corporations.
- The United Arab Emirates score higher than average on the quality of life index and on FDI.
- Bahrain has a higher quality of life and less competition than average.
- Jordan scores lower than average on the three criteria.
- Romania has the highest number of foreign affiliates to transnational corporations.

Overall ranking

Finally, the seven decision criteria have been combined to perform the overall ranking, based on the priority settings imposed by the management requirements:

| Decision criteria | Priority | Weight |
|---|----------|--------|
| 1 Market labour costs and productivity | 1 | 35% |
| 2 ICT infrastructure | 2 | 20% |
| 3 Labour market regulations | 3 | 15% |
| 4 Labour market and graduate availability | 4 | 10% |
| 5 Political stability | 4 | 10% |
| 6 Cost of living | 5 | 7% |
| 7 Attractiveness | 6 | 3% |

Which results in the following overall ranking: *(The index score is the weighted average of all the indexes showing the deviations of the overall ranking mean.)*

Ranking overall

| Rank | Country | Index Score |
|------|--------------------------------------|-------------|
| 1 | Bahrain - Manama | 0.750125 |
| 2 | Saudi Arabia - Riyadh | 0.665181 |
| 3 | Poland - Wroclaw | 0.661848 |
| 4 | Jordan - Amman | 0.536963 |
| 5 | Oman - Muscat | 0.509056 |
| 6 | United Arab Emirates - Ras Al Khayma | 0.356447 |
| 7 | United Arab Emirates - Dubai | 0.356447 |
| 8 | United Arab Emirates - Abu Dhabi | 0.341424 |
| 9 | Egypt - Cairo | 0.304890 |
| 10 | Tunisia - Tunis | 0.128009 |
| 11 | Morocco - Casablanca | -0.015562 |
| 12 | Morocco - Tanger | -0.059829 |
| 13 | Romania - Bucharest | -0.087221 |
| 14 | Turkey - Istanbul | -0.558907 |
| 15 | Nigeria - Lagos | -0.801543 |
| 16 | Ghana - Accra | -0.970932 |
| 17 | Mauritius - Port Louis | -1.031665 |
| 18 | Senegal - Dakar | -1.084732 |

Annex

Labour cost and productivity data

The subjoined table depicts the total annual labour cost for the IT sector:

| | Location | Annual labour cost |
|----|------------------------|--------------------|
| 1 | Egypt - Cairo | 6156 |
| 2 | Jordan - Amman | 8525 |
| 3 | Tunisia - Tunis | 12158 |
| 4 | Morocco - Casablanca | 12644 |
| 5 | Morocco - Tanger | 13329 |
| 6 | Saudi Arabia - Riyadh | 13588 |
| 7 | Ghana - Accra | 15065 |
| 8 | Romania - Bucharest | 15417 |
| 9 | Senegal - Dakar | 16007 |
| 10 | Poland - Wroclaw | 17151 |
| 11 | Nigeria - Lagos | 17432 |
| 12 | Oman - Muscat | 17600 |
| 13 | UAE - Dubai | 18605 |
| 14 | UAE - Ras Al Khayma | 18605 |
| 15 | UAE - Abu Dhabi | 18838 |
| 16 | Bahrain - Manama | 18860 |
| 17 | Turkey - Istanbul | 23914 |
| 18 | Mauritius - Port Louis | 36127 |

The subjoined table depicts the labour productivity:

| | Location | Labour productivity |
|----|----------------------|---------------------|
| 1 | Bahrain | 58.09 |
| 2 | Oman | 52.00 |
| 3 | Saudi Arabia | 46.29 |
| 4 | United Arab Emirates | 43.63 |
| 5 | Poland | 33.05 |
| 6 | Mauritius | 30.99 |
| 7 | Morocco | 30.09 |
| 8 | Tunisia | 26.66 |
| 9 | Turkey | 22.85 |
| 10 | Romania | 22.84 |
| 11 | Jordan | 19.86 |
| 12 | Egypt | 15.26 |
| 13 | Ghana | 7.24 |
| 14 | Senegal | 4.56 |
| 15 | Nigeria | 3.86 |

Table with an overview of the combined labour cost and productivity index score.

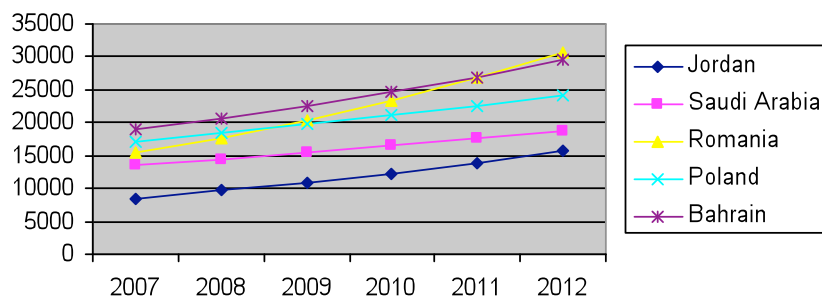
| | Labour Cost and Productivity Index | Score |
|----|------------------------------------|----------|
| 1 | Saudi Arabia - Riyadh | 0.780368 |
| 2 | Bahrain - Manama | 0.732062 |
| 3 | Oman - Muscat | 0.638685 |
| 4 | Egypt - Cairo | 0.387476 |
| 5 | Jordan - Amman | 0.343187 |
| 6 | Morocco - Casablanca | 0.337739 |
| 7 | United Arab Emirates - Ras Al | 0.289524 |
| 8 | United Arab Emirates - Dubai | 0.289524 |
| 9 | Morocco - Tanger | 0.282349 |
| 10 | United Arab Emirates - Abu Dhabi | 0.270726 |
| 11 | Tunisia - Tunis | 0.26718 |
| 12 | Poland - Wroclaw | 0.068283 |
| 13 | Romania - Bucharest | -0.11852 |
| 14 | Ghana - Accra | -0.58998 |
| 15 | Senegal - Dakar | -0.75175 |
| 16 | Turkey - Istanbul | -0.80531 |
| 17 | Nigeria - Lagos | -0.88952 |
| 18 | Mauritius - Port Louis | -1.53203 |

Labour Cost Projections

The following table and chart give an overview of the evolution of the estimated absolute labour costs figures in the three best scoring countries and benchmark countries.

| Labour cost evolution (in €) | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------------------------------|-------|-------|-------|-------|-------|-------|
| Jordan | 8525 | 9633 | 10885 | 12299 | 13898 | 15704 |
| Saudi Arabia | 13588 | 14484 | 15439 | 16458 | 17543 | 18700 |
| Romania | 15417 | 17700 | 20321 | 23330 | 26785 | 30751 |
| Poland | 17151 | 18379 | 19695 | 21106 | 22617 | 24237 |
| Bahrain | 18860 | 20623 | 22551 | 24659 | 26965 | 29486 |

Labour Cost Projections



Jordan is the lowest labour cost location. Bahrain is the most expensive location but is expected to be surpassed by Romania in 2012.

Annex. Variable definitions

- Total market labour costs (Economic Research Institute, Salary Survey)
 - The gross annual employee earnings are comprised of the following cost categories: computer related activities and research & development. Total market labour costs are fully loaded and expressed in €.
- GDP per capita (Thomson Financial)
 - Gross domestic product (GDP) is a measure for the economic activity. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. GDP per capita is expressed in Purchasing Power Parity (PPP).
- Labour productivity per person employed (Thomson Financial, UGent calculations)
 - Gross domestic product (GDP) is a measure for the economic activity. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. GDP per person employed is intended to give an overall impression of the productivity of national economies.
- Science graduates (United Nations, Offices for National Statistics)
 - The total number of a country's science graduates.
- Students enrolled in science studies (United Nations, Offices for National Statistics)
 - The country's total number of students enrolled in tertiary science studies.
- Engineering graduates (United Nations, Offices for National Statistics)
 - The total number of a country's engineering graduates.
- Students enrolled in engineering studies. (United Nations, Offices for National Statistics)
 - The country's total number of students enrolled in tertiary engineering studies.
- Difficulty of hiring index (the World Bank)
 - The Difficulty of Hiring index measures (i) whether term contracts can only be used for temporary tasks; (ii) the maximum duration of term contracts; and (iii) the ratio of the mandated minimum wage (or apprentice wage, if available) to the average value-added per working population.
- Rigidity of hours index. (the World Bank)
 - The Rigidity of Hours index has five components: (i) whether night work is restricted; (ii) whether weekend work is allowed; (iii) whether the workweek consists of five-and-a-half days or more; (iv) whether the workday can extend to 12 hours or more (including overtime); and (v) whether the annual paid vacation days are 21 days or less.
- Difficulty of firing index (the World Bank)
 - The Difficulty of Firing index has eight components: (i) whether redundancy is not grounds for dismissal; (ii) whether the employer needs to notify the labour union or the labour ministry for firing one redundant worker; (iii) whether the employer needs to notify the labour union or the labour ministry for group dismissals; (iv) whether the employer needs approval from the labour union or the labour ministry for firing one redundant worker; (v) whether the employer needs approval from the labour union or the labour ministry for group dismissals; (vi) whether the law mandates training or replacement prior to dismissal; (vii) whether priority rules apply for dismissals; and (viii) whether priority rules apply for re-employment.
- Cost of firing (the World Bank)
 - The Cost of Firing indicator measures the cost of advance notice requirements, and severance payments and penalties due when firing a worker, expressed in terms of weekly wages.

- Political stability index (the World Bank)
 - This criterion measures the country's political stability from the following nine dimensions: (1) genocidal incidents involving communal victims or mixed communal and political victims; (2) the occurrence of a civil war; (3) the number of assassinations per thousand population; (4) the number of extraconstitutional or forced changes in the top government elite and/or its effective control of the nation's power structure; (5) the number of illegal or forced changes in the top government elite, any attempt at such change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government; (6) violent demonstrations or clashes involving more than a hundred citizens involving the use of physical force; (7) the number of major government crises, where a crisis is defined as any rapidly developing situation threatening to bring the downfall of the present regime, excluding instances of revolt aimed at overthrow; (8) the number of times in a year that a new premier is named and/or 50 percent of the cabinet posts are occupied by new ministers; and (9) the number of basic alterations in a state's constitutional structure, the extreme case being the adoption of a new constitution that significantly alters the prerogatives of the various branches of government.
- Index of economic freedom (the Heritage Foundation)
 - Economic freedom is defined as the absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself. In other words, people are free to work, produce, consume, and invest in the ways they feel are most productive. In order to measure economic freedom, the index is comprised of ten broad categories:
 - Trade policy
 - Fiscal burden of the government
 - Government intervention in the economy
 - Monetary policy
 - Capital flows and foreign investment
 - Banking and finance
 - Wages and prices
 - Property rights
 - Regulation and
 - Informal market activity
- Corruption perception index (Transparency International)

The corruption perception index measures the country's degree to which corruption is perceived to exist among public officials and politicians. This criterion focuses on corruption in the public sector and defines corruption as the abuse of public office for private gain. This index incorporates the misuse of public power for private benefits, with a focus, for example, on bribe-taking by public officials in public procurement.
- Housing costs (Economic Research Institute, Cost of Living Survey)
 - Monthly rent for 2 bedroom 80 sq.mt. flat, expressed in €.
- Utilities' costs (Economic Research Institute, Cost of Living Survey)
 - Monthly utilities' cost in a 130 sq.mt. Residence - including base telephone fee, expressed in €.
- Consumer price index, rent indices (the International Labour Organization)
 - This figure gives an indication of how much rental prices have risen since the basic year 2000.

- Presence of transnational corporations (World Investment Report)
 - The number of foreign affiliates to transnational corporations.
- Quality of life index (Economist Intelligence unit)
 - The determinants of the quality of life index are: material wellbeing, health, political stability and security, family life, community life, climate and geography, job security, political freedom and gender equality.
- Currency risk (UGent calculations)
 - The currency risk measures the volatility of the local soft currency against a hard currency, the Euro (the standard deviation of the exchange rate since 01/01/2004).