

## ISRAEL - INTELLECTUAL CAPITAL SUCCESS IN BRIEF

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The profitability and growth potential is highly dependent upon the development and effective use of intangible (intellectual) assets. Creation of wealth in a world economy today depends on technological innovations, which in turn involves developing, owning and managing knowledge assets as well as intellectual property. [1.2] [2.3] [17.1] In terms of Intellectual capital management, the development of State of Israel seems very impressive. The country introduces the significant achievements in various fields and became a home for some of the most profitable technological developments. These can serve as the perfect example for Armenia to develop.

**Intellectual capital** is considered to be the source of the competencies and capabilities that are essential for the national economic growth, human development and quality of life. Particularly, the results of intellectual capital studies in the national level provide a direction for nations to benchmark and to make wise decisions in the effective investment and development of national intangible assets in the era of the knowledge economy. [3.7] [18.1]

Intellectual capital is becoming the key factor for the wealth in modern societies, determining competitiveness and providing the basic resources for the economic development and further growth. All the economic institutions, including companies, government institutions, non-government institutions and organizations, take part in the intellectual capital creation process. The ability to create and efficiently use the intellectual capital implies the economic strength of a nation and its welfare. A society's openness to imports of knowledge, ideas and information, and the ability of its economy to process them properly are crucial for socio-economic development of the

country. Nowadays firms and other organizations are much more knowledge “producers” than goods producers: their employees are engaged in the production of knowledge, firms themselves become learners, and innovation is becoming the main source of new value creation. Intellectual capital appears to be more a competitive advantage today than physical or financial capital.

The establishment of intellectual capital as the dominant factor of economic development also means transition to a new value structure. The value creation trends to be shifted from tangible (material production) to intangible production (R&D, planning, marketing, sales, transportation and servicing). In many aspects modern production is an intellectual activity, dependent on inputs by engineers, accountants, designers, HR specialists, sales and marketing specialists and experts in information networks. To put it in other words, employers need the employees’ brains rather than their hands. The human capital is the part of intellectual capital: it comprises knowledge, practical skills and creative thinking capacities of people, their moral values and labor culture. The intellectual capital includes human, organizational and customer (or client) capitals. [4.99]

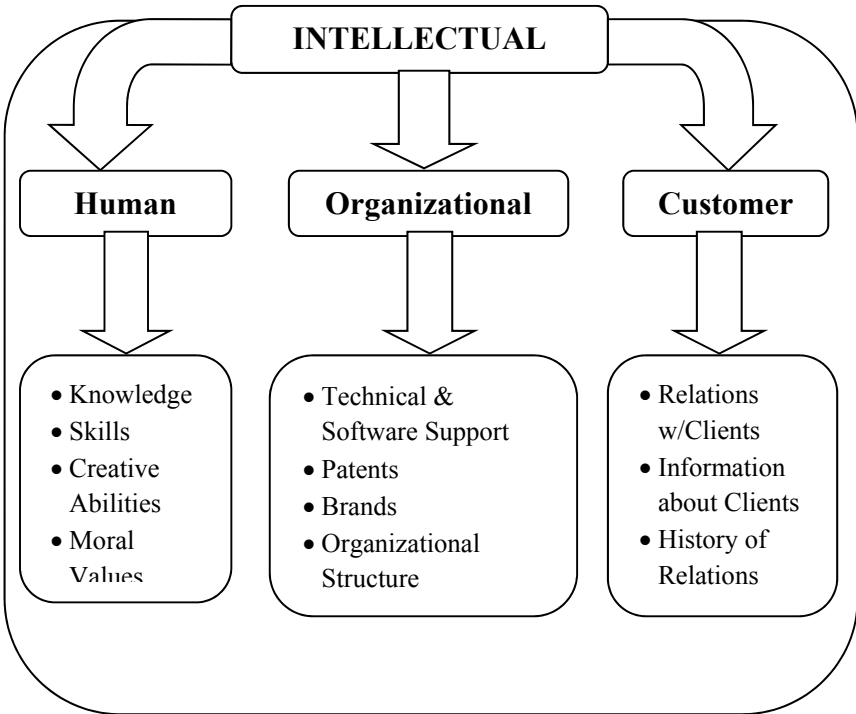
**Human capital** is important for innovation and for any process of renewal. Human capital represents individual abilities, knowledge, skills and experience of all employees in a company that are necessary to offer a complete product or service to a customer.

**Organizational capital** is the capacity of an organization to meet market requirements. It works in partnership with human capital to transform information. Organizational capital represents procedures, technologies, management systems, technical and software support, organizational structure, patents, brands, organizational culture and relations with clients.

**Customer or client capital** is a company’s links and relationships with clients and customers. To create customer capital is to create a structure that allows consumers to

communicate efficiently with company personnel. Economic competition is connected with human capital and intellectual capital. The fact that a firm cannot fully own human capital is of key importance: human capital belongs to the people who are its bearers. (Figure 1). [1] [5.235,238]

*Figure 1. The Structure of Intellectual Capital*



*Source:* [www.undp.ru/download.phtml?\\$334](http://www.undp.ru/download.phtml?$334)

In less than 70 years, Israel has been ranked the 1<sup>st</sup> in the world for scientific research, IT skills, entrepreneurship, etc. Apparently, the cogent reason is that Israel has made investments in intellectual capital evaluating its qualities. The Israeli

agriculture-oriented economy was substituted with high technology industry. This choice has already proved to be the right decision. It was Israel's intellectual capital that provided a fertile ground for its start-up culture rather than its arid climate and few natural resources. [1]

### **The Israeli Economy 60 Years Ago...**

Until the 1970s, industries like textiles, fashion, furniture, pesticides, fertilizers, irrigation and water management, food processing, plastic, rubber, metal and machinery provided the bulk of Israel's output. During that time, most of Israel's resources were devoted to the development of food production and processing. [17.3]

One of the earliest Israeli industrial innovations to reach international markets was the drip irrigation system, based on a concept pioneered in the 1890s by a researcher in California. [6.7]

The next industrial phase in Israel was focused on the business development and manufacture of arms needed for its defense, and it was helped because of various arms embargoes. The investment in arms and aviation laid the grounds for Israel's current industrial base: today the medical, telecom, electronics and software sectors are quite prosperous.

During the 1980s, the Israeli expatriates from Silicon Valley returned to their home country, opening centers for companies like Microsoft and IBM. In the 1990s, an influx of technicians, medical workers and scientists from the former USSR helped Israel to attain today's economy level. [7]

### **Per Aspera Ad Astra: Israel Today**

Nowadays, saying "the centre of innovation, R&D and technological excellence", Israel firstly comes to one's mind. How come? Once having been an agro technology market leader and a producer of fresh agricultural products, Israel is a high-tech oriented industry today. Despite limited natural resources, Israel has intensively developed its agricultural and industrial sectors over the past 20 years. [8.2] [17.4] Cut diamonds, high-technology

equipment and agricultural products (fruits and vegetables) are the leading export production. Israel usually posts sizable trade deficits, which are covered by large transfer payments from abroad and by foreign loans. Israel's GDP grew about 5% per year from 2004-2007. The impact of the global financial crisis of 2008-2009 caused a brief recession in the Israeli economy, but the country has overcome the adverse impacts with solid fundamentals such as a prudent fiscal policy, a series of liberalizing reforms and a resilient banking sector. The early recovery of the economy serves as a proof to the above-mentioned. Following the GDP growth of 4% in 2008, Israel's GDP slipped to 0.2% in 2009, but reached 3.4% in 2010, as exports rebounded. The global economic downturn affected Israel's economy primarily through reduced demand for Israel's exports in the US and EU, Israel's top trading partners. Exports of goods and services account for about 40% of the country's GDP. The Israeli Government responded to the recession by implementing a modest fiscal stimulus package and an aggressive expansionary monetary policy including cutting interest rates, purchasing government bonds and intervening in the foreign currency market. [9]. The “laissez faire” doctrine is not embraced by the Israeli economy. Instead, the Israeli Government and policies strongly support investment and economic growth of the country. Various incentives, benefits, as well as the R&D support and the investment support have had a positive impact on the economy. The Israeli Government actively supports **business development** through 2 main vehicles, (1) the Law for the Encouragement of Capital Investment (the Investment Law) and (2) the Law for the Encouragement of Industrial R&D.

The **R&D support system** offers R&D grants of up to 40-50% of an approved R&D program. The Government founded the Technology Incubator program in the early 1990s. Today there are 24 technological incubators across the country (out of which 13 are private). The incubators offer government funding up to 85%.

They nurture the companies from seed to early stage minimizing the risk to the investor.

The Government has been quite proactive in encouraging domestic and foreign capital **investment inflows**. Innovation continues to be the main magnet and attraction for the investment in Israel.

Moreover, the estimations and forecasts for future are much more promising for Israel thanks to the maturity of its market. [10.3]

### **Factors Supporting the Israeli Economic Miracle**

#### ➤ *“Brain Gain” through Immigration*

The Israeli innovation has been boosted and stimulated by risk-taking immigrants including an influx of science and engineering talent from the former Soviet Union. Israel is considered to be the largest immigrant-absorbing nation in the world.

#### ➤ *Possession of Prestigious Academic Education System and Highly Educated Workforce Availability*

Israel is a leader in educational spending. It has the highest number of scientists and technicians per capita in the world. The Israeli academia are the engine of innovation. Besides, Israel has the highest ratio of university degrees to the population in the world (as of 2012). More than 25% of Israel's workforce holds university degrees; Israel has world class universities and research institutions, e.g. the Technion, Weizman Institute, Tel Aviv University, Hebrew University of Jerusalem, Ben Gurion University and more. In overall, 8 universities, 27 academic institutions and 27 institutions for training the teaching staff provide higher education. Israel's 7 universities are ranked among the world's top institutions. [11.9]

#### ➤ *Promotion of the Start-Ups and Venture Capital Industries*

In proportion to its population, Israel has the largest number of start-up companies in the world (as of 2012). In absolute terms,

Israel has the largest number of start-up companies than any other country in the world, except the US (3500 companies mostly in hi-tech). Israel is ranked the 2<sup>nd</sup> country in the world for venture capital availability. The Israeli venture capital industry has approximately 70 active venture capital funds out of which 14 are international VCs with offices in Israel. In 2008, 483 Israeli hi-tech companies raised \$2.08 billion. [15]

➤ *Creating Ideal Conditions for Innovation*

Israel provides an ideal environment for promoting innovation. The country is ranked 1<sup>st</sup> in terms of its quality of scientific research institutions and 4<sup>th</sup> in terms of utility patents. The Israeli innovations include a long list of market firsts such as disk-on-key technology, IP telephony, ZIP compression, the ingestible pill-size camera, modern drip-irrigation technology, ICQ instant messenger and many more.

➤ *Entrepreneurial Spirit Evaluation*

As a testimony to the country's vibrant start-up culture, the Israeli managers are ranked 1<sup>st</sup> in the world for their business entrepreneurship: its entrepreneurial spirit enables to transform start-up companies into profitable and competitive companies. This is evident by the fact that Israel has the largest number of NASDAQ listed companies outside the US and an increasing number of companies listed on the LSE (London Stock Exchange). Apart from Silicon Valley, the highest concentration of high-tech companies in the world is found in Israel with 4000 businesses.

➤ *Appreciating the Significance of R&D Spending*

The highly trained graduates of the Israel Defense Forces as well as the defense industries have spearheaded the high-tech boom making the defense technologies fit to the civilian applications. The result is that Israel is ranked 1<sup>st</sup> in the world (as of 2011) in terms of expenditure on R&D (as % of GDP): 4.8% of GDP was spent on R&D in 2010 (highest in the world). The significant growth in business R&D personnel demonstrates Israel's wealth in human capital.

➤ *Pro-Active Government Policy and Support*

Recognizing and realizing the importance of the technology sector to the economic growth and welfare of the country, the Israeli Government has established many incentives over years to encourage and support investment in technology-oriented companies and projects. These include tax relief, Government grants (through the Office of the Chief Scientist) and the establishment of technological incubators. Innovation entrepreneurship, incubation and venture capital funds are the key spheres the Israeli Government provides support.

➤ *Creating Investor Friendly Environment*

The investor friendly environment in Israel is attractive for many countries. The tax holidays enact for up to 10 years for foreign investors. The reform law for the Encouragement of Capital Investment will simplify bureaucratic processes concerning the approval of investments through the establishment of a Green Line<sup>1</sup>. In addition, benefits to the multinational companies are also provided. Intel, Microsoft, Google, Cisco, Motorola and many other world-known companies invest in Israel.

➤ *Gaining International Recognition*

Israel has strong trade relationships and agreements with the world's major trading blocks. Important bilateral agreements have been signed in the sphere of agriculture, health and medicine, protection of environment, industrial and technological R&D, as well as agreements on economic cooperation. [12]

**Armenia-Israel: Drawing Parallels**

Armenia and Israel have much in common in geographical, educational, scientific, intellectual, socio-economic and political

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<sup>1</sup> Green Line refers to the demarcation lines set out in the 1949 Armistice Agreements between Israel and its neighbors (Egypt, Jordan, Lebanon and Syria) after the 1948 Arab-Israeli War. The Green Line is also used to mark the line between Israel and the territories captured in the Six-Day War, including the West Bank, Gaza Strip, Golan Heights and Sinai Peninsula.

aspects. The two countries are rather small in terms of square (Armenia takes 29800 square kilometers, and Israel — only 20770). The huge potential in intellectual development makes it possible for Armenia to reiterate the Israeli miracle story. Besides, both countries lack in natural resources. In early 1950s Israel started its economical development getting occupied in industries like textiles, food processing, chemical and agricultural sectors. The former Soviet Armenia was also occupied in the above-mentioned economic sectors. Nowadays Israel is prospering in hi-tech production volumes.

And at last but not least, the two countries have suffered a lot because of political conflicts and genocide.

The factors above prove that Armenia has all prerequisites for “exploiting” the full potential of its intellectual capital rationally and optimally.

Nevertheless, there are also factors that create some obstacles in implementing the Israeli success story in Armenia.

Firstly, having no access to coastline makes it difficult for Armenia to implement water transportation. This is a strategic factor. The coastline amounts up to 273 kilometers in Israel.

Secondly, the Jewish people have a powerful lobby. The basis of the lobby's power is political resources intelligently and aggressively deployed, strong media and pundit representation and support, a well developed and powerful system of grassroots activism, and the absence of any seriously contesting opposition. The lobby's power is manifested in the virtually open submissiveness of a large number of legislators. The lobby can muster remarkable numbers in support of Israeli interests in general or on any specific issue. The Jewish lobby's power is also shown by its ability to maintain Israel's huge claim on the foreign aid budget, which remains at approximately \$4 billion a year. The flow of foreign aid did not stop even during the period of serious budgetary pressures and neglect of large constituencies.

Thirdly, the sponsorship by West is also an important factor that Israel possesses. Israel's dependency on western support is most obvious when one considers that Israel remains the largest recipient of US aid in the world. Aid started to flow in large amounts in 1973, and has reached an average of \$3 billion annually. Over the years, the ratio of military aid increased at the expense of civilian aid, and Israel is required to use the funds to buy weaponry from US companies.

Nowadays the intellectual capital (IC) is becoming a major part of countries' value because we live in the knowledge era in which intangible assets, such as IC, are growth drivers. To manage and control IC, a country should be able to "measure" it. IC Reports serve for that reason. An IC Report is an official assessment of a country's IC and may be represented as an additional chapter of a country's Annual Report. In other words, it is a balance sheet of a country's "knowledge". IC Reports give the opportunity to manage a country's growth in a better way. Besides, they make it possible to communicate the intrinsic value of the country's stock to investors and lenders. So, the country needs to produce IC Report, which should comprise commercial and non-commercial constituent parts.

A group of professionals should deal with the IC Reports. Data mining, handling and final revision should be their basic obligations in preparing the IC Reports.

Devising and introducing a systematic curriculum regarding the IC Reports in the educational institutions will make it possible to train professional specialists for the future. [13.2,4] [14]

**Key concepts:** intellectual capital, human capital, organizational capital, customer or client capital, R&D, intellectual capital reports.

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**«ՄՏԱՎՈՐ ԿԱՊԻՏԱԼԻ ԴՐԱԿԱՆ ԱԶԴԵՑՈՒԹՅՈՒՆԸ  
ԻՄՐԱՅԵԼԻ ՕՐԻՆԱԿՈՎ»  
Լ.Վ. ԹՈՒՄՅԱՆ**

**Ամփոփում**

Շահութաբերության և աճի ներուժը մեծապես կախված են ոչ նյութական ակտիվների (մտավոր կապիտալի) զարգացման և արդյունավետ օգտագործման մակարդակից: Ժամանակակից աշխարհում ազգային հարստության ձևավորումը բխում է տեխնոլոգիական նորարարություններից, որն իր հերթին ենթադրում է մտավոր կապիտալի ռացիոնալ օգտագործում, զարգացում և կառավարում որպես մտավոր սեփականություն: Մտավոր կապիտալի կառավարման տեսանկյունից բավականին տպավորիչ է Իսրայելի օրինակը. գյուղատնտեսության ոլորտում երբեմնի առաջատարը, ունենալով սահմանափակ բնական ռեսուրսներ, այսօր համարվում է գիտահետազոտական ոլորտի օրրան: Իսրայելը կարճ ժամանակահատվածի (մոտ 60-70 տարի) ընթացքում կարողացավ գրանցել մեծ հաջողություններ գիտության ոլորտում: Սրան նպաստեցին 1990-ականների սկզբին տեղական կառավարության

որդեգրած արդյունավետ քաղաքականությունը և բարեփոխումները: Կառավարությունը լուրջ քայլերի դիմեց՝ աշխուժացնելու երկրի ներդրումային ոլորտը: Օտարերկրյա ներդրողների համար նորարարությունը շարունակում է մնալ հիմնական գրավական, որը մղում է նրանց կատարել ներդրումներ հենց այստեղ: Կատարվեցին օրենսդրական փոփոխություններ գործարար ոլորտը աշխուժացնելու և զարգացնելու համար: Այս առումով Իսրայելը կարող է գերազանց օրինակ ծառայել բազմաթիվ անցումային երկրների համար: Բացառություն չէ նաև Հայաստանը: Այս երկու երկրներն ունեն բավականին շատ ընդհանուր գծեր, որոնցից են տարածքային փոքրությունը, բնական պաշարների սղությունը, գիտակրթական բարձր մակարդակը, քաղաքական բարդություններ և այլն:

*Առանցքային հասկացություններ.* մտավոր կապիտալ, մարդկային կապիտալ, կազմակերպչական կապիտալ, սպառողական կապիտալ, գիտատեխնիկական և կոնստրուկտորաշինական աշխատանքներ, մտավոր կապիտալի վերաբերյալ հաշվետվություններ:

**“ПОЛОЖИТЕЛЬНОЕ ВЛИЯНИЕ  
ИНТЕЛЛЕКТУАЛЬНОГО КАПИТАЛА НА ПРИМЕРЕ  
ИЗРАИЛЯ”  
Л.В. ТУМЯН**

**Резюме**

Потенциал роста и рентабельность зависят от уровня развития и эффективного использования нематериальных активов (интеллектуального капитала). В современном мире формирование национального богатства (достояния) исходит из технологических инноваций, которые в свою очередь предполагают рациональное использование, развитие и

дальнейшее управление интеллектуальным капиталом. С этой точки зрения Израиль является наглядным примером. В прошлом являясь лидером в области сельского хозяйства, Израиль сегодня считается колыбелью в области исследований и разработок. Этому способствовали предпринятые меры в виде эффективной политики и реформ. Местное правительство предприняло серьезные шаги для активизации иностранных инвестиций. Инновации до сих пор являются главным магнитом для привлечения инвестиций в Израиль. В законодательстве, регулирующем предпринимательскую деятельность страны, были сделаны соответствующие изменения. Израиль является прекрасным примером для многих стран с переходной экономикой. Армения тоже имеет возможность развиваться по “проторенному” Израилем пути. Есть много общего у этих двух стран: площадь страны, ограниченные природные ресурсы, уровень образования, политические осложнения и т.д.

**Ключевые слова:** интеллектуальный капитал, человеческий капитал, организационный капитал, потребительский капитал, научно-исследовательские работы, отчеты по интеллектуальному капиталу.