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WORLD INTELLECTUAL  
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**UNDER THE PATRONAGE OF HER ROYAL HIGHNESS  
PRINCESS SUMAYA**

**WIPO NATIONAL SEMINAR ON INTELLECTUAL PROPERTY FOR  
THE PRINCESS SUMAYA UNIVERSITY FOR TECHNOLOGY (PSUT)**

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CHALLENGES AND OPPORTUNITIES FOR THE DEVELOPING COUNTRIES

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## Introduction

There has been an increased interest within Jordan in protecting intellectual property especially during the past few years. It also became an important factor in Jordan's accession and signature of several multilateral and bilateral treaties. Several industries had to adopt a new approach in dealing with the intangible value of IP. The pharmaceutical and IT sectors were amongst the most affected. Nevertheless, considerable success has been witnessed in both sectors.

I will attempt to question the importance of intellectual property to developing countries and the possibility of using IP protection as a vehicle towards economic prosperity.

I will start by posing a simple question: **What's wealth?** Well, wealth can be generally defined as "the surplus value of assets over liabilities held by a person. Assets are created by a person having a *legal claim* over things that have economic value. Liabilities are created when a person has a *legal obligation* to provide economic value to another. Wealth then exists when the value of a person's claims over property exceeds the value of his/her obligations."

Private wealth is presumed to be the only method for a person to obtain economic independence.

Nations as persons accumulate wealth. But, **what makes a nation wealthy?** Many argue that materialistic wealth is merely an element within the bigger picture. They believe that a combination of factors make a civilization wealthy. However, and for the sake of this presentation I will only concentrate on the financial aspect of wealth.

To explain this issue further I will tell you a story! Once upon a time, there was the *agricultural economy*. The domestication of grains and animals ten thousand years ago helped people settle in small communities. This replaced the need to hunt for food. And when agricultural production started to exceed domestic needs a new form of business started. People began to exchange their products and created the first "market place".

Then, about three centuries ago the machine revolutionized the way people lived. *Capital* became the key productive resource and production of goods reached unprecedented levels. Demand grew and wealth grew with it.

The most influential thinker in the history of capitalist economics tried to explain what was happening: "*Adam Smith*" wrote a book in 1776, called "The Wealth of Nations." Adam Smith was born in 1723 in Kirkcaldy on the Firth of Forth in Scotland. He studied at Glasgow University where he obtained an M.A. in 1740. In that year he went to Balliol College, Oxford, remaining there for six years.

"His experience in England had given him a geographical contrast between wealthy England and relatively poor Scotland, but his experience in Kirkcaldy and Glasgow between the 1730s and 1760s gave him an equally important temporal contrast. This was a perfect place from which to witness two dramatic changes. The first was the transformation of the political system. Up to 1745 the older world of the clan system and Catholicism still remained strong in the Highlands as a living contrast to the religious, political and social system of lowland Scotland and England.

Smith was thus living on the border of two civilizations and in his formative years watched one of them decisively defeat the other. His unusual insight into the deepest structures of commercial capitalism came out of this experience.

The rapid development of Glasgow in this period is excellently described by Rae, for 'Glasgow had already begun its transition from the small provincial to the great commercial capital, and was therefore at a stage of development of special value to the philosophical observer.

Yet Adam Smith would not just have learnt about trade and merchant activities from his Glasgow friends, for there was also rapid industrial development. These *new entrepreneurs* founded the Smithfield ironworks, and imported iron from Russia and Sweden to make hoes and spades for the Negroes of Maryland. They founded the Glasgow tannery in 1742, ..., and where they employed 300 men making saddles and shoes for the plantations. They opened the Pollokshaws linen printfield in 1742, copper and tin works in 1747, the Delffield pottery in 1748. They began to manufacture carpets and crape in 1759, silk in 1759, and leather gloves in 1763. They opened the first Glasgow bank - the Ship - in 1750, and the second - the Arms - in 1752.

He lived in a boom-town and watched a feudal, Calvinist, world dissolving into a commercial capitalist one. The Wealth of Nations is in many ways an almost autobiographical attempt to describe and explain how and why this was happening around him”.

He believed that work is the basis for all well-being, while monopoly and cartels are obstacles for the beneficial processes. And that an *invisible hand* at work within the market mechanism will ascertain that all the needs in society will be covered.

But what Adam Smith really discussed was income not wealth. Following his footsteps; “economists and governments ever since have been concerning themselves with the distribution of National Income rather than National Wealth”.

### **The role of IP in creating wealth**

In today’s world the brain power and talent has become the real **wealth engine**. Dr Madsen Pirie says: “we live in a People economy. And since people are both diverse and mobile, governments and social scientists now need to change the very way they think about job-creation, regional policy, taxation, social solidarity, welfare and much more.”

“The phrase ‘new economy’ has been used liberally to describe businesses which deal in new technologies, in mass communications, or in anything related to computers and the Internet.”

The renowned economist Paul Romer suggests that the accumulation of knowledge is the driving force behind economic growth. For countries to promote growth his theory goes, their economic policies should encourage investment in new research and development (R&D) and subsidize programs that develop human capital.

## What is Intellectual Capital?

To simplify the issue researchers broke down intellectual capital into three components:

### 1. *Human resources*

Which are represented by the collected competence that is embodied in individuals and to which the organisation can benefit from.

### 2. *Organisational resources*

The essence of organisational resources is the competence and values embedded within the routines, processes, brands, IP, information, software and structures of an organization. The term *soft infrastructure* is used to refer to the components that comprise organizational resources.

### 3. *Relational resources*

Relationships held by the organisation with any type of external actors such as suppliers, customers, partners, local communities, government, shareholders and other stakeholders. These are often commonly referred to as networks.

Value derived from intellectual capital is therefore derived from the combinatorial use of the resources.

A document published by WIPO states that in 1982, some 62 percent of corporate assets in the United States of America were physical assets, but by 2000, that figure had shrunk to a mere 30 percent. In Europe, at the beginning of the 1990s, intangible assets accounted for more than a third of total assets and as early as 1992, in the Netherlands, they accounted for more than 35 percent of total public and private investments.

A report issued by PricewaterhouseCoopers in 1999 found that the global IP licensing market totaled more than US\$100 billion, giving an idea of how economically important IP assets are today. On average, 40 percent of the value of a company – that tied up in its intangible assets – is not shown in any way on its balance sheet.

It has become clear that patents, copyright and related rights, trademarks, geographical indications and trade secrets are significant contributors to *enterprise value*.

## Managing intellectual assets

“Management in today’s economy is to a large extent about managing intangible resources, in addition to managing physical resources”. There has been considerable interest in finding ways and methods to define, manage and evaluate intangible intellectual assets. In today’s economy people have become more important as their intellectual competence is what gives extra value to the enterprise. This can be better recognized in technology oriented companies.

Markets too have found it somehow difficult to deal with the new reality. As a result the .com crash was inevitable.

“The importance of intangibles, and their correct management, for economic development creates a role for Government to encourage the development and use of appropriate management and measurement tools to identify these assets and ensure that they are employed to maximum advantage.”

## **The role of universities**

Universities are the natural innovation spring boards. MIT for example created an entrepreneurship center. Professor Eric von Hippel who Co-Founded the MIT Entrepreneurship Center says: "Entrepreneurship is the driving force for growth and change in our economy. Our goal at the Center is not only to inspire and train new generations of entrepreneurs, but also to foster a better fundamental understanding of this creative process of new venture development through our research and educational programs". According to a Boston Bank report in 1997 "the 4,000 MIT related companies employed 1.1 million people and had annual world sales of \$232 billion."

However, there needs be a mechanism to protect inventions that might find their way to the market. In the United States of America, "the Bayh-Dole Act of 1980 permitted universities and small businesses to elect ownership of inventions made under federal funding and to become directly involved in the commercialization process. This new policy also permitted the licensing of new inventions from universities to the businesses that would, then, manufacture them. The Act promoted a substantial increase in technology transfer between universities and industry."

But, **how can intellectual property protection help the developing world?** According to Mr. Kamil Idriss: "intellectual property is a "power tool" for economic development and wealth creation that is not yet being used to optimal effect in all countries, particularly in the developing world. It is a practical guide to using those intangible assets – such as knowledge, information, creativity and inventiveness – that are rapidly replacing traditional and tangible assets – such as land, labor and capital – as the driving forces of economic health and social well-being."

He adds: "increase in the level of FDI in India, for example, has been evident ever since patent and trademark reform was introduced in the early 1990s. An even more dramatic development took place in Brazil with spectacular growth in FDI following the introduction of a new industrial property law in 1996 (US\$4.4 billion in 1995 to US\$32.8 billion in 2000)."

He then supports his vision with the following **success stories:**

### ***Dr Reddy's Success in India***

Dr. K. Anji Reddy founded a pharmaceutical company in India that has rapidly expanded to provide high-quality, low-cost pharmaceutical products to markets worldwide. Dr. Reddy's Research Foundation (DRF) was established in 1993 with the purpose of discovering new drug therapies. It attributes much of its success to patent protection, through which it is able to market and license its new drugs internationally. The Foundation has filed patent applications in several countries for all its inventions, including 31 product patent applications in the United States of America, of which 17 have already been granted. In India, 110 product and process patent applications have also been filed. Because patent protection is central to its activities, DRF has established an in-house intellectual property management group to oversee all international patent filings and matters relating to patent strategy.

### ***Azithromycin***

one of the world's best-selling antibiotics, from Croatia Pliva, one of the most profitable companies in Croatia and one of the largest pharmaceutical companies in Central Europe, is

widely considered to be Central Europe's first home-grown multinational. Once struggling to stay alive, this company witnessed a dramatic turnaround in its fortunes, following its discovery of azithromycin – today, one of the world's bestselling antibiotics. Patented by Pliva in 1980, the drug was subsequently licensed to Pfizer, which markets it as Zithromax™. Sales of Zithromax™ were US\$1.5 billion in 2001. The phenomenal revenues derived from the licensing agreement have facilitated Pliva's rapid expansion across Croatia, Poland, and Russia. Remarkably enough, all this came about because Pfizer's scientists happened to stumble upon Pliva's patent in 1981, while searching through patent documents at the United States Patent and Trademark Office (USPTO).

### **The challenge**

Professor Prabuddha Ganguli, who helped the Royal Scientific Society develop its internal IP policy believes that: “Scientifically capable developing countries now have to evolve pragmatic policy models that would address comprehensively the integration of IPR into their national systems for continual and balanced economic growth. Wealth generation and distribution in the knowledge-driven economy demands an abundance of trained human resources, products and services.”

He adds: “Most developing countries and the least developed countries have been sources of capable manpower and services that are drained into developed countries without any significant return on investment to the country producing them. Such a siphoning generates a non-sustainable developmental framework.

What is required is to nurture a system that generates capable human resources, highly valued services and products that are protected appropriately as intellectual property and transferring them at optimum value as ‘value-added wealth’ into the country producing such resources. National policymakers must examine critically the parameters that will create, facilitate and activate such feedback mechanisms to establish a symbiotic relationship between nations to ensure continual reinvigoration of national innovation processes.”

There is also a need to restructure the patent system especially in the developing world so that inventors can get easier access and receive an efficient service. Jordan is expected to do much more to benefit from its most precious yet underutilized resource: namely its people.

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