Intellectual Property
Department of Humanities and Social Sciences
Indian Institute of Technology Madras

Lecture – 14
Intangible Economy

We had seen that intellectual property rights manifest on tangible things and that fact that they are regarded as intangible rights over tangible things or physical things. Now, let us look at another aspect which has recently come up. This is the Intangible Economy. Now, scholars are in agreement that there is something called the intangible economy that has come up and we need to see because when we are talking about intellectual property rights, we are essentially talking about intangible rights.

So, how do these intangible rights work in an intangible economy? For instance, if you book a car using Uber, then there is quite a lot of intangible stuffs that come into play for you to hail a cab and reach to your destination. Now, Uber through its app helps you to find the car that is most proximate to you, a driver who is free with the car and connects you and saves quite a lot of cost for the driver as well as for you to take you to your destination and the entire process is kept and there is monitoring of the entire process and then, you get your receipt at the end of the drive as well.

Now, this is facilitated by a whole lot of intangible things working together. One, there is software through the app, two there is this intangible network that Uber has created of customers and drivers which is one of Uber's usp. The fact that Uber has a network of people who are willing to hail cabs and willing to drive cabs has ensured that we can have a drive at a cause which is much lesser than what it used to be before and now to understand the intangible economy we need to get into some details about this.

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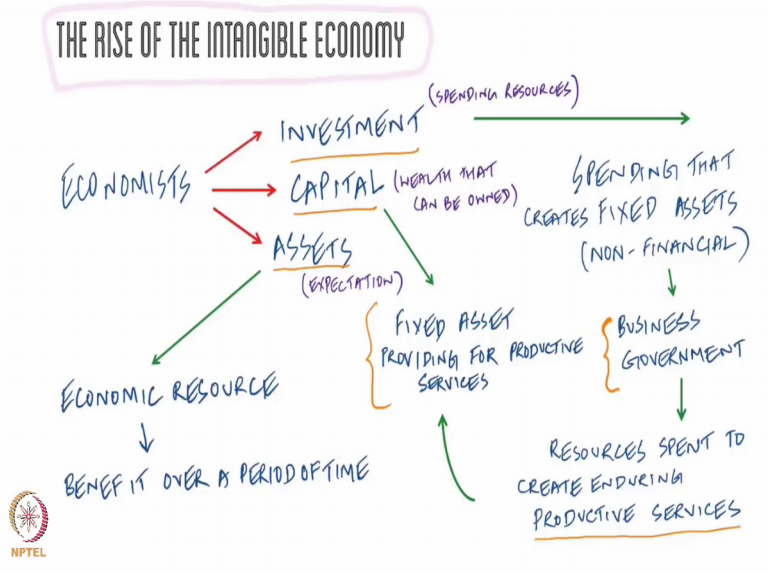

Now, there is rise in the intangible economy especially in the last few decades. Now, economists tell us that there are things that can be critical in understanding the intangible economy. For instance, investment, capital and assets are the things that drive an economy. Now, when we are talking about investments, we are looking at the spending resources, the resources that are being spent. Investment is an important thing to understand because if we understand investment in intangible assets, then we can come up with an argument as to whether we have an intangible economy at all in the first place.

If we come to a conclusion that yes there is investment that goes into the creation of intangible assets and intangible assets can itself be regarded as an investment, then we will be able to look at this argument in greater detail and see how intellectual property rights can operate in an intangible economy, but first let us look at investment in through the eyes of the economists.

Now, investment refers to the spending that creates fixed assets. Now, we are talking about non-financial assets. We are not talking about shares or bonds; we are just talking about the fixed assets that are non-financial. Now, this spending could also come from businesses and governments. Now, they could also make this come up with the spending and the resources spent are towards creating enduring productive services. Now,

production as you all know has an important thing that the economy considers. In fact, GDP is nothing, but a measure of productivity of the country.

Now, investment again is regarded or is accounted by spending resources. Now, we will look at the investment in the light of how do you measure or how do you know that there has been an investment when it comes to an intangible asset. Now, that is what we are trying to see here, but let us get these concepts right first. So, we understand investment as a resource spent to create enduring productive services. Capital is something we all know as wealth that can be owned by people. Capital can be considered as a fixed asset providing for productive services.

So, investment into the productive services can be by way of capital. So, capital can be the fixed asset that actually creates these productive services. Now, capital in the traditional understanding we can understand capital as wealth. So, the fixed assets providing for productive services is what can be is what we can call as capital. Now, assets by themselves assets are and what we call an economic resource that for which we expect a benefit over a period of time. So, something that sits for a period of time and there is an expectation of a benefit, we call that an asset. Now, let us look at how these words or these concepts interplay when it comes to an intangible asset.

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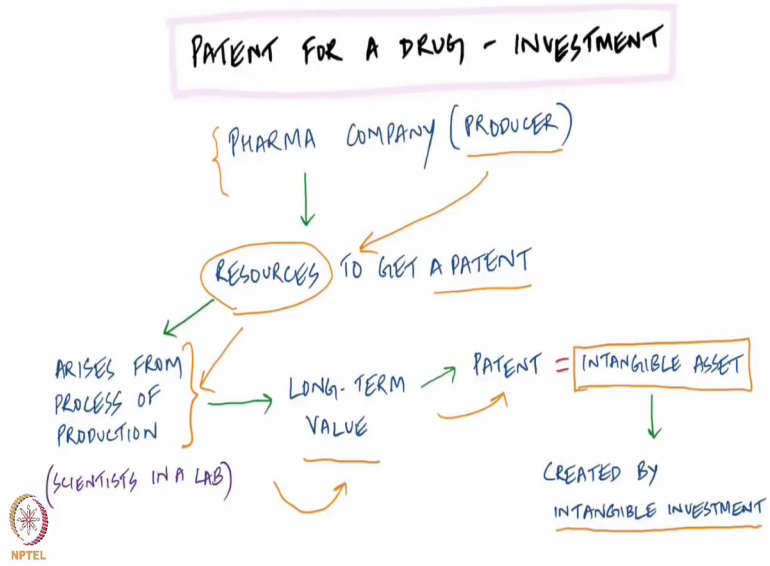

Now, to understand this let us look at the pattern for a drug. Now, a pattern for a drug requires investment, so let us just run this through to understand how an intangible asset

is created and what is the investment that goes into it. First to create a pharmaceutical drug or a drug that can be patented, you need a producer. The producer in most cases is a pharmaceutical company. A pharmaceutical company is in the business of creating drugs. Now, the pharmaceutical company needs to employ resources for getting a patent. Now, the resources for getting a patent is different from the resources that are spent in creating the drug.

Now, these are two different things. Now, creation of the drug arises from the process of production, scientists working in a lab R and D, this creates the product itself, but to protect the product or to protect the intangible part of the product, you need other resources like you need patent attorneys, you need lawyers, you need a whole lot of people who can protect the other resources to protect the resources that are involved in getting a patent.

Now, the long term value is something which we had already seen that the value has to be there for something to be considered as an asset. We saw that there is an expectation of value, only then we consider something to be an asset. So, in the case of a pattern, there is certainly long term value because if a patent is granted regardless of which country grants that patent, the patent tends to live for 20 years from the date of application. So, the patent has a value so, we consider this process, the producer investing resources on something that arises from a process of production which has got long term value in the creation of a patent.

A patent is an intangible asset. We know the pattern as an intangible asset and this example tells it that it is created by an intangible investment. Now, if I ask you what actually went into the creation of the patent, you may not be able to point out. It could be the people behind it, it could be the effort that has gone into it, it could be the money, capital, the fees, the consultation fees, the official fees that went into it. So, the intangible investment that has gone into this asset is what we call an investment made by the producer.

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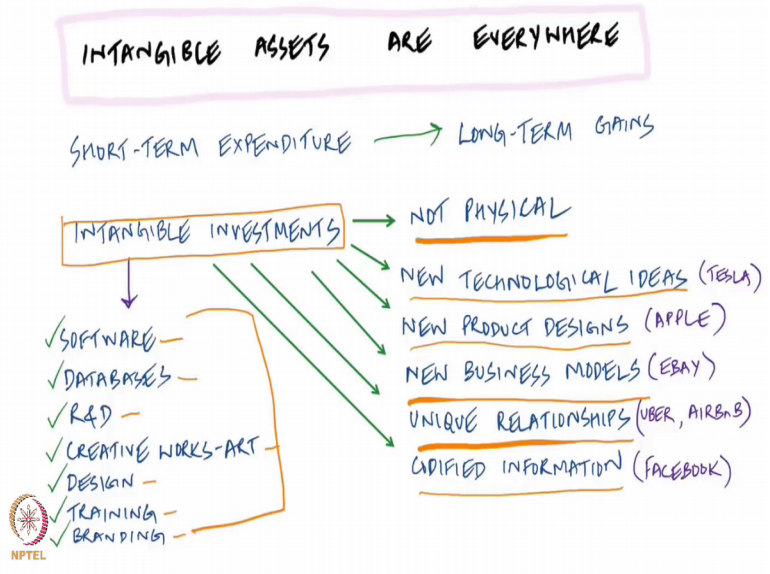

Now, intangible assets are everywhere. For instance, if you look at an intangible assets, a typical way to explain that is where a person, a producer makes a short term expenditure in the expectation of long term gains. Now, this again qualifies or this defines what an intangible asset could do. Intangible investments are different from tangible investments because tangible investments which are made in a manufacturing unit, you can look at the factory, the machinery, the tools. These are all physical things which you can perceive. So, you can equate a tangible investment with a physical investment, but intangible investments stand in a different footing because intangible investments one they are not physical.

So, first thing intangible investments are not physical and we saw in the example covering the pharmaceutical product that you may not be actually be able to pinpoint what was the investment that went into the creation of the intangible asset. Now, intangible investment can come from new technological ideas like Tesla's idea to have electric cars.

It could come from new product designs which Apple is famous for in combining and coming up with new product designs. It could come from new business models like for instance in the case of Ebay where we for the first time saw that auctions could be conducted online it could come from unique relationships. Uber has a unique relationship with its drivers, Air and Air B and B has unique relationship with the hosts who are

willing to share their accommodation with strangers and intangible investments can also come from codified information, information that is coded in some form or the other for example, all the social media which collects information and quotes it.

So, when you look at how these intangible investments result in, you can see that they can result as software, they can result in the creation of databases, intangible investments and can get into R and D; Research and Development, they can get into creative works like artistic works or works of entertainment, it can get into design. Intangible investments can get into training and also branding. Now, these are the different segments which can attract intangible investments.

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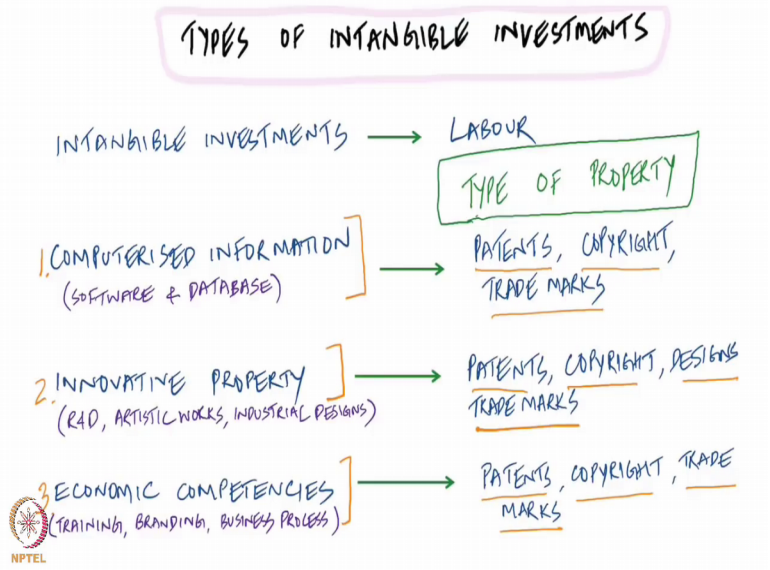

Now, intangible investments involve labor. Now, that is one way to define it because if you look at tangible investment, for instance the work that goes into creation of a car. For instance, there is quite a lot of material that goes into it, but what distinguishes an intangible investment from a tangible investment is that there are investments in material and physical things.

Nevertheless what distinguishes it is the labor that goes into it and when the labor is creative or when creative labor is involved as we saw in our earlier lectures, when creative labor is involved, we would see that there is a possibility to protect the creative labor by way of an intellectual property right, so when we look at the type of property that manifests in intangible investments.

Now, we had looked at three broad categories like one is computerized information, two is innovative property and three you have economic competencies. Now, computerized information could include all of software and database investments made in by all the tech companies could technically come under computerized information. Innovative property would include R and D artistic works, industrial designs and economic competencies would include training, branding and business processes. Now, this is just a classification of what you just saw in the earlier page. What we saw here this is just a classification of this list.

So, for computerized information, you could have patterns though there are jurisdictions that do not grant patterns for computer related inventions. You could have copyright and you could have trademarks. Now, these are the three types of intellectual property that protects intangible investments and intangible investment in this case manifests in the form of a computerized information.

Two in the case of innovative property, you could again have patents protecting it results of R and D, copyright, designs and trademarks, three in the case of economic competencies like training, grounding and business processes, you could again have patterns, though patterns for business processes what we call business method patents are not granted in many countries. You could have copyright you could have trademarks protecting them.

So, now we understand that there are different types of products that manifest out of intangible investments and intangible investments are labor intensive. Now, you can see in creating software and database, there is labor involved in R and D; research and development at creation of artistic works, creation of designs. You will again find there is there is a labor involved in it and in training, branding and creating business processes.

So, what distinguishes an intangible investment from investment in physical assets is the fact that there is a role played by human labor and labor is important especially when it is creative and creative labor as we have already said it can be protected by the various types of property patents, copyrights, trademarks and designs.

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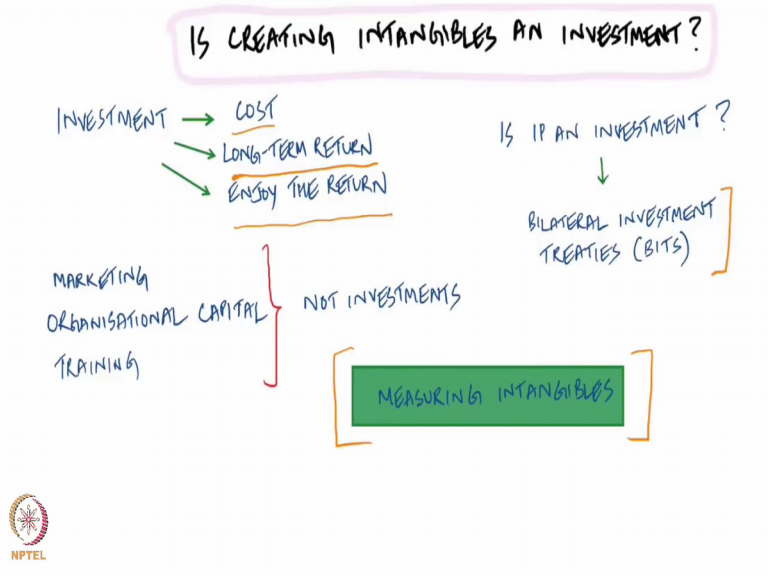

This creating intangibles and investment now an investment we had seen that involves cost. It has a long term return and the person who makes the investment is able to enjoy the return, the producer. Now, there is some differences as to whether investment, whether creating intangibles can be regarded as an investment. Now, economists have raised some issues saying that marketing organizational capital and training cannot be regarded as investments because of which it is being done it is different from the traditional understanding.

Now, when it comes to IP as an investment, we again have certain issues with regarding intellectual property as an investment because this issue has come up repeatedly in some of the bilateral investment treaties which countries have signed with each other. Now, bilateral investment treaty is a treaty which two countries may sign to promote investment between the two countries.

Some of the treaties regard intellectual property as an investment and again the arguments that can be raised against regarding intangibles as an investment can again come forth in regarding IPs and investment. Intellectual property as an investment at the heart of the issue is how can we measure intangibles, how can intangibles be measured. Now, if you are able to measure intangibles which would also tell us that you are able to measure the value of intellectual property because intellectual property is a type of an intangible.

Now, if we are able to measure the value of intellectual property, then we can attribute value to intellectual property itself though intellectual property valuation is a branch that is growing.

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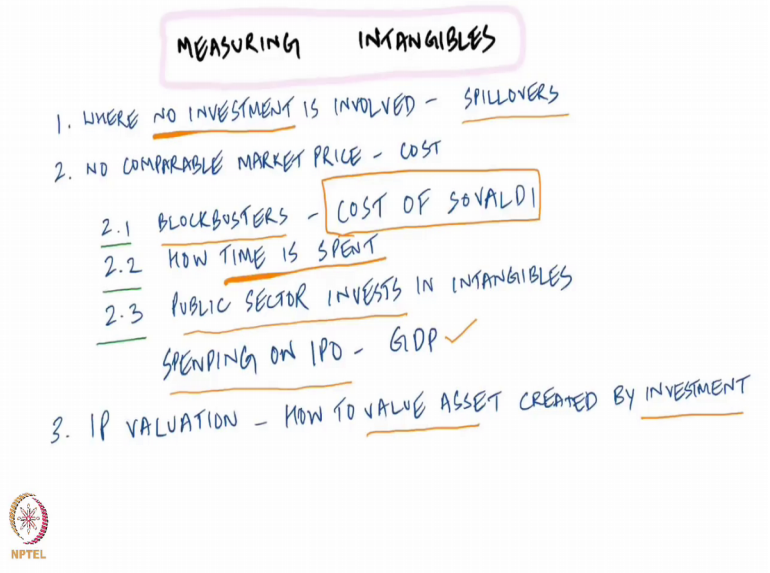

Measuring intangibles; so, how do we measure intangibles? Now, there are some difficulties in measuring intangibles because they could be an intangible asset that comes out without an investment. So, in cases where there are no investment made still you could have intangible assets coming out, for instance spillovers you did not consciously make an effort to create something, but there is a spillover effect which could lead to an intangible asset. So, it will be hard to measure the investment in those cases.

Now, normally measuring is done by comparing with a market price. If the market price is not there, if there is no comparable market price, then you look at the cost, you look at the cost that went into creating the intangible. Again the cost may not be a proper yardstick for measuring the intangible in few cases. For instance, if the intangible results in the blockbuster for instance the blockbuster is a drug which has a turnover of more than a billion dollars annually and some blockbusters have even crossed 20 billion dollar threshold per annum.

So, the revenue far exceeds the cost of development. So, we will be looking at this example. The cost of Sovaldi, which is a drug which is one of the best selling drugs, we will look at that and for us to understand that many a times measuring intangibles cannot

be done by factoring costs and if there is no market price because Sovaldi was the first drug to treat Hepatitis C. You do not even have a market equivalent or an alternative or an example in the market for which you can compare the price.

So, you have this issue of measuring intangibles either there is no market price, comparable market price or the cost itself may not be the right reflection in the case of blockbusters. It will be hard for us to get an estimate on the time that is spent when we are looking at measuring intangibles and three, when the public sector itself makes investments, it will be hard for us to look at that as well. In for many drugs, the basic research is actually done by a government funded project.

So, when we factor the cost of a pharmaceutical drug that is patented many a times, it may not be able to factor the cost of public sector investment that has gone into it, the laboratories that had worked on it, the scientists who had researched on it, the amount of government funding that came for developing that drug and public sector investment would also in some cases. In some countries, the spending that happens at the intellectual property office which is a metric for measuring GDP has also been considered by some economists.

Now, in measuring intangibles as we said IP valuation is a hot topic that gets discussed as to how you can value intellectual property. Now, one way to look at it is that how to value the asset that was created by the investment. So, valuation of asset created by the investment can give us some leads on how to value intellectual property itself.

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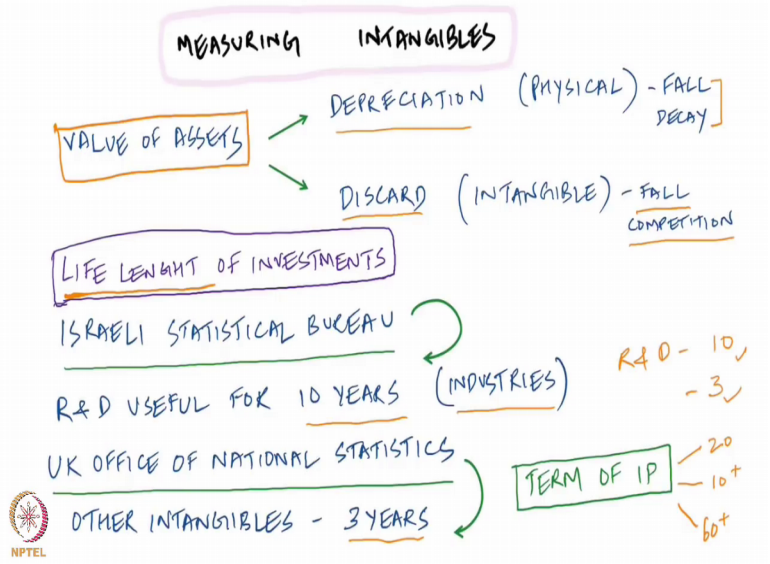

When we look at the value of assets, the value of assets can go down over time. Now, for physical assets we call it depreciation, where the value falls over time. For intangible assets, scholars use the word discard. Now, discard is actually fallen value just like depreciation, but the fallen value is not contributed by passage of time. It is rather contributed by the entry of competition.

So, in intangibles the value of assets can go down over time when competition sets in. For instance, a pattern gives you exclusive monopoly for 20 years and at the end of the 20 years, discard sets in the sense that the value of the asset goes down because once the pattern expires, every general company who is interested in manufacturing that drug can actually make drug. So, you will find that when the generic companies enter into the market, the price falls down for the drug which means the value of IP assets have gone down drastically. Now, this is also called the pattern cliff, the point beyond which patterns will not bring revenue or an monopolistic revenue to a drug manufacturer.

Now, when we look at measuring intangibles, the life length is a concept that is important. What is the life length of the investments? Now, we have an Israeli Statistical Bureau study which tells that R and D is useful for around 10 years, but this is different across different industries and the UK office of national statistics tells us that for other intangible, the life length could just be 3 years. So, bear in mind when we talk about the life length of R and D as 10 years and life lengths of other intangibles to be 3 years. We

are talking about what could be the value of the intangibles that are developed or over a period of time, these two studies tell us that it is 10 and 3 years.

If you look at intellectual property, the value or the life of the intellectual property is much greater than this. Other term of IP for patterns is 20 years, for trademarks is renewable forever if the mark is kept alive. So, every 10 year or so, you can renew it and for every 10 year you can keep renewing it and for copyrights it is a life of the author plus 60 years so, life plus 60.

So, this just tells you that though some studies tell us that the life length of an investment is between 3 and 10 years, we find that the products that come out of these investments are able to enjoy much longer protection, that is what we call the term of intellectual property, the time during which intellectual property rights offer an exclusivity to the creator.

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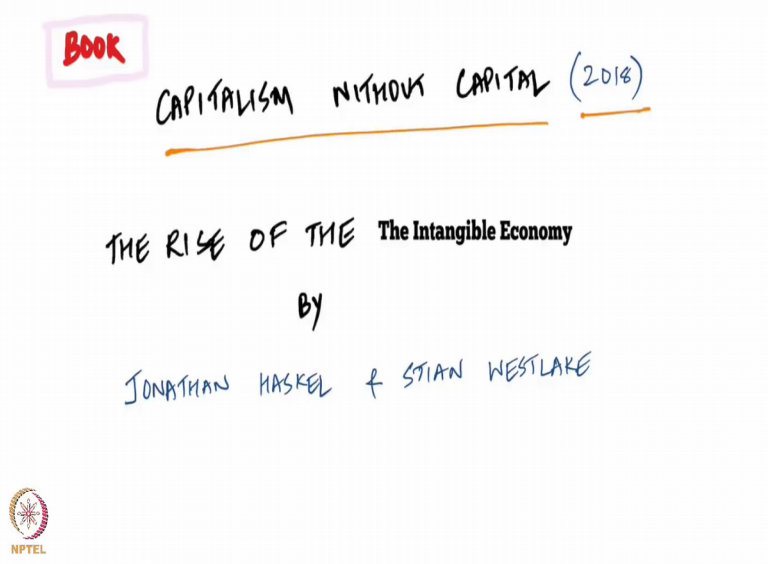

Now, all this is taken from the capitalism without capital which is a recent book, The Rise of the Intangible Economy.

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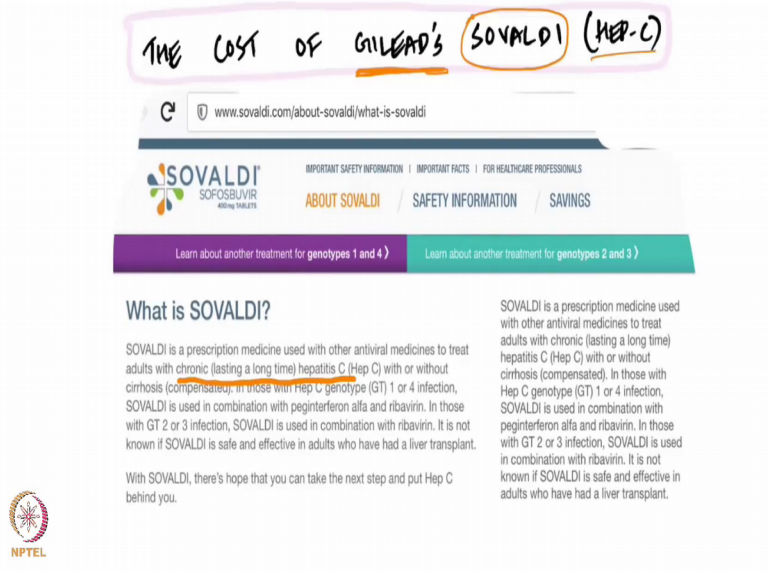

Now, let us look at the cost of Gilead. Gilead is a pharmaceutical company which with the first drug for Hepatitis C, Hep C and the drugs name is Sovaldi. Now, let us just look at what Sovaldi does. Sovaldi is a prescription medicine for treating chronic Hepatitis C. Now, this is one of the wonder drugs in recent times and the success rate of Sovaldi in treating Hepatitis C patients is quite high. It is that their success rate is more than 95 percent. It is no wonder that Sovaldi has figured as the top and the best selling drug over the last few years.

Now, Gilead which create which own Sovaldi is a biotech company, but Gilead did not create Sovaldi that is a story.

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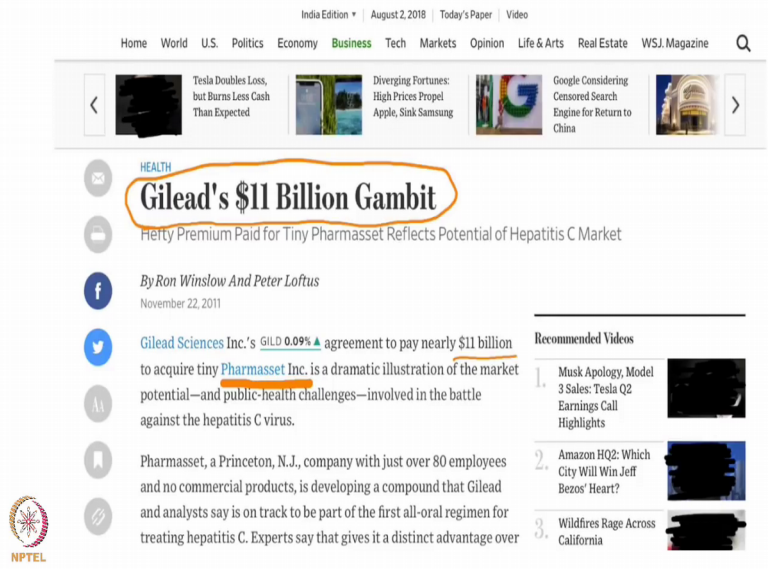

Now, if we look at this journal, this article by the wall street journal, it is called Gilead purchase of the company which actually made Sovaldi or when the drug was under development, Gilead acquired firm asset for close to 11 billion dollars. Now, this was the price that Gilead paid for the acquisition. Now, 11 billion dollars included the entire company, but it also included the drug that was in the pipeline which was the drug or the promise for a treatment for Hepatitis C. So, when Gilead acquired in 2011, Wall Street journal called it a gambit because why was Gilead a pharmaceutical company putting in so much of money into a company which did not have any commercial product at that time from asset.

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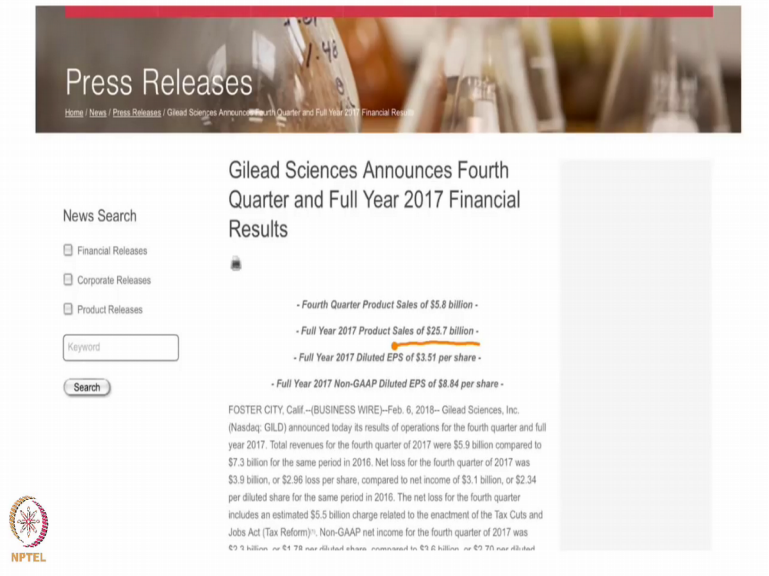

So, the answer to it can be found whether it was a gambit or not can be found in the Gilead press release for the year 2017 that the product sales was over 25 billion. Now, this product also in wool includes Sovaldi. Sovaldi is a drug that is sold across the globe for more than 20 billion dollars in the year 2017.

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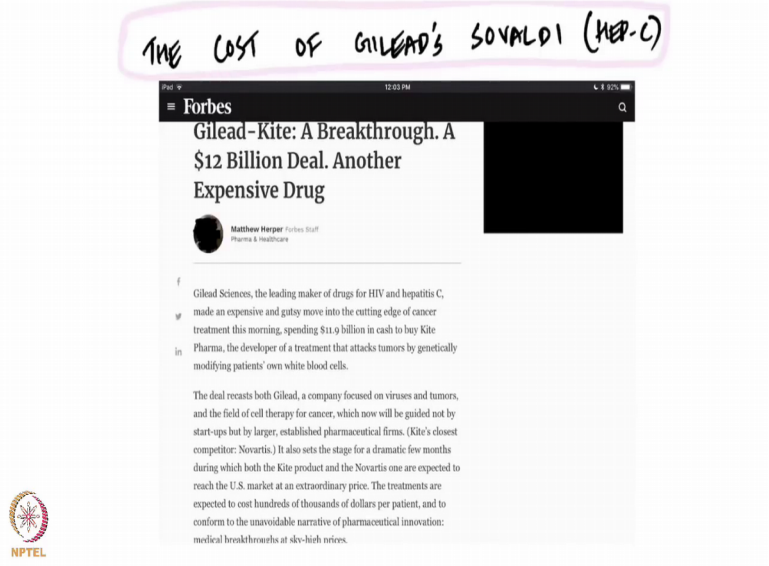

Now, if you look at the amount of money, Gilead actually invested which was 11 billion and the amount that was recouped which is like more than 20 billion in a year and it used to be lesser initially, but over the year it has now reached a point where Gilead gets 20

billion dollars for the drug. It is hard for us to compute a value on the intellectual property assets covering Sovaldi.

If you take the market route, it will be a different value. If you look at the cost route, the cost of acquisition was only 11 billion. So, this illustrates the issue with valuation of intellectual property. It is hard to measure intellectual assets by different roots and you can see that you may not get to a perfect answer and Gilead is again back into another 12 billion dollar deal and this time it is investing in a company for developing cutting edge cancer drugs. Kite Pharma is a company which Gilad acquired paying close to 12 billion dollars.

Now, this again brings out another issue that is a recurring theme in intellectual property, right hat medical breakthroughs happen at sky high prices.

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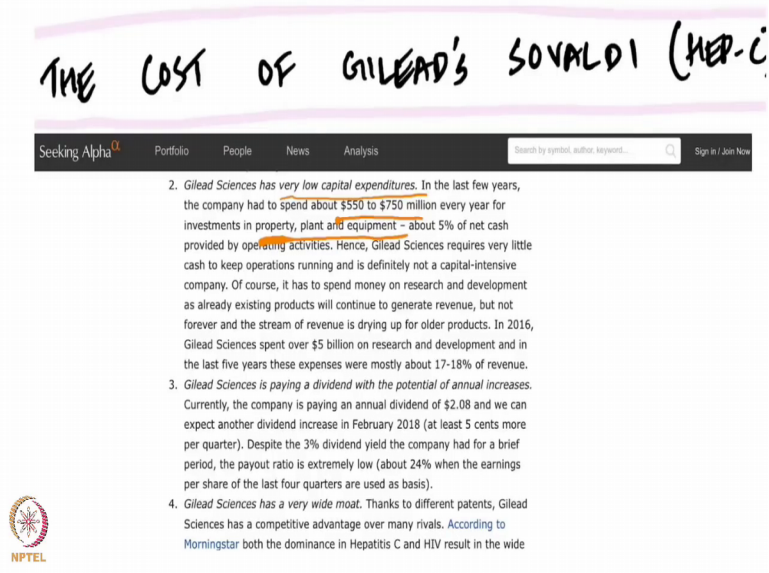

Now, if you look at the way in which Gilead sciences operates, it operates with very low capital expenditure. Now, over the last few years, it has spent somewhere around 550 to 750 million US dollars every year for investments in property plant and equipment. Now, that is that amount to 5 percent of net cash provided by operating activities. Now, this would show that you know the way in which Gileads operations are arranged, it will be again hard to look at the investment that goes into the intellectual property.