

**Business Analysis for Engineers  
Prof. S. Vaidhyasubramaniam  
Adjunct Professor, School of Law  
SASTRA University-Thanjavur**

**Lecture -29  
External & Internal Environ Analysis**

In my introductory class on strategy, I had made a reference, to the issue of understanding of strategy, as to why, strategy is not that simple, that everybody can easily understand. And, that it is, a little more complicated, because of which, many of them also misunderstand, what strategy is about. And, each and every one has, a different interpretation of the concept of strategy. But, one thing is certain, if you ask the question, as to what explains, the success of companies like, an Apple, or a GE, or an IBM, or the Tata's, there must be something in a formal shape.

And, for management consultants, they understand it as strategy. And, for those who have no clue about strategy, they should not think that companies like these, have become overnight success stories. And, it is true that a layman, would always believe that, the success story of Apple, is only because, they did this thing. And, he assumes that, the strategy of Apple itself, is an overnight thought process. As a result of which, it became a successful global company.

And, even understand, that this layman understanding, is reasonable. But, as we go ahead, a few of those, would appreciate the fact that there is some formal mechanism, within each organisation. And, let us say, we call this formal mechanism as, a strategy map for each organisation. As a result of which, they have been successful. Or, as a result of a poor strategic map, they have also been failures. So, when we go to the next level, there is a recognition of the fact, there is something called a strategy for every organisation.

And, when we push a little ahead, then we realise that, the very framework of strategy, did not just fall in place, just like that. There were different inputs, which were collated. And, how the behaviour of each of these inputs, stack up. And, these are organisation specific. And, based on these inputs, and the availability of resources within an organisation, different decisions are being taken, which are in perfect alignment, to a particular strategic objective of an organisation.

And this, we can understand, as we go a little ahead, in our understanding framework of strategy. And, pushing ahead, some will also realise, that it is not only the input to the organisation, factors within an organisation, there is also something that is exterior to the organisation, which is also very relevant for the organisation. And lastly, the choice of doing a particular thing remains, in perfect alignment to the objective of the organisation itself. There is no point, having a good strategy in place.

But, that strategy is not able to answer, what the objective of the organisation itself, is seeking. And once, a good strategy is formulated, which is in alignment with the core objectives of an organisation, it then gets implemented. And, then again, the outputs evaluated. And again, it gets back, as a feedback. And, the entire strategy exercise, starts. So, you must understand that, it is not just a one board room discussion, over an issue, that results in successful strategies, that organisations evaluate, select, implement, and then again, do this exercise all over.

It is a combined effort, that involves inputs from various stakeholders. And, the combination of all these, viewed from different perspectives, will add more meaning to the concept of strategy. And, I would be discussing on, some of these combining factors, and see how organisations view them, how they handle these factors, and how they take inputs from each of these factors, in their endeavour to come out with, a clear strategy for the organisation.

**(Refer Slide Time: 06:06)**

## Environmental Scan

Environment – Internal vs External

Internal – Organisation

External – Microenvironment / Macroenvironment



Let me begin with, the environmental scan. This is something, that is very important for all organisations. The very word environment means, internal, as well as external. There is something, that is exterior to the organisation. And, of course, there is something, that is very, very internal to an organisation. So, what happens within an organisation, let us say, organisation specific issues and activities, are internal. And, outside the organisation is external. And, outside, there is again, something that is called, the Micro-environment, and Macro-environment.

And, Micro-environment, you could include, all of those that are external to the organisation, but very much within the value chain of the organisation. Which means, it could include, the Dealer, the Supplier, the Customer also. And, Macro-environment, which is something very much beyond the, value chain of an organisation. But, it is necessary, that organisations need to understand, the environment around which, it is functioning, both from an internal perspective, as well as an external perspective. **(Refer Slide Time: 07:29)**

## External Analysis – PEST Model

### Macroeconomic influencers

Political

Economic

Social

Technological



Let us begin with, the external perspective analysis. And, there are different ways by which, we can analyse, what is happening external to an organisation. And, I am talking about, the Macroeconomic environment, not the Microeconomic environment. One popular model, that is been used, is the PEST model. Which clearly identifies, four important influences of the Macroeconomic situation, outside the organisation.

Which has a very strong bearing, on the external environment in which, an organisation is functioning. And, the acronym for PEST, is basically these four influences namely, the political, the economic, social, and technological. The assumption is, these four, I am not saying these are the only four, but these four influences, are the most impactful, that alters the behaviour of the Macro environment, which is external to an organisation.

**(Refer Slide Time: 08:44)**

## Political Factors

Political Stability – Libya, Egypt, India?

Tax Policy – Mauritius

Employment Laws – Doctors, Child labour

Environmental regulations – Nuclear plant, BP  
Mexico

Trade restrictions & tariffs – National & Global  
Duties & WTO



Policy decisions – USA, India, etc.

Let us begin with, political factors. And, analysing these four factors, is important for every organisation. Because, they need to know, the circumstances under which, they have to function. So, every organisation, will definitely undertake, to understand, the political, economic, social, and technological impact, that the organisation will have, because of changes in any of these four. So, if you need to understand, the political factors.

I will begin with, political stability, at the first place. Because, if I need to do business in a given geography, I need to know whether, I can be sustainable over a long period of time. And, if investments are very high, I need long-term stability, in whichever country, that I am planning to do my business. So, if you ask the question, whether it is a good time to do business in Egypt, now. Right or wrong, is a different issue. But, it is a very good question, that I will have to ask.

Because, it is a question that is concerning, the political stability of the country. Libya, in the same case. Early 90's, for India. And, assume that, I am an investor outside, and wanting to do business inside India. The political stability of any country, will definitely have an impact, on the decision making process of organisations. And, any organisation would definitely prefer, a stable political scenario, so that the convenience of doing business, is not that significantly impacted, or negatively impacted.

The next political factor is, the tax policy. Some countries will have, enticing tax mechanisms, to

attract investors. Some might have, tax rules that are very strict. And, many of you would have read in the newspapers, or know about, the tax policy in countries like Mauritius, ((to who an investors)) (11:15) so, different countries have, different tax policies. And, that also determines, when it comes to taking a decision. Tax policy is definitely, help or do not help, certain organisations in certain countries.

Employment loss. This is also something, that organisations always look. And especially, for professionals. Assume that, you are in the Healthcare business. What are the employment laws of Doctors? Or, Businesses, that are very labour-intensive. Employment laws, and child labour. Laws on minimum wages. So, these are all issues, that companies, and organisations will see. Likewise, environmental regulations. The most recent one, is on the nuclear plant.

What are the environmental laws, that govern the business in which, an organisation is willing to invest? And, what happens, if such regulations are not followed. Take the case of, again a most recent example, the BP Mexico Gulf, Oil spill. So, when tough environmental regulations are there, it does not mean that, companies do not want to do business there. It only means that, they have to ensure that, they adhere to these tough regulations. And, adherence to these regulations means, extra investment.

And, extra investment means, extra money. And, extra money means, more business, to have a positive ROI. So, these are all the issues. It is not just an environmental regulation, appearing in the form of certain rules and regulations, in books. It also has to be translated, and look through, a strategic lens. Next, trade restrictions and tariffs. Trade restrictions and tariffs, within a given country. The taxes within a given country. Or, global restrictions and tariffs. Talking about this, we know about the WTO.

Now, what happens, if there are changes, that are happening, the way in which, goods and services are transacted across borders. Whether, certain countries are favoured, over certain countries. And, whether that is very much within, the framework of the global trade and tariff regulations. So, these things also, organisations will understand. And of course, the policy decisions. Policy decisions, that the government in place, takes on different businesses.

Whether, the US government, and especially now it is election time. So, whether the IT industry, is keenly watching, on what type of policy decisions, would a republican, or a democratic government would take, in the next 4 years. And likewise, many investors, many companies inside the country, also look at policy decisions that are taken, across different industries, within our country. And, most of them are aligned with the political forces.

Policy decision at a bureaucratic level, is also a factor, that we will have to analyse, under the political factor spectrum. And, this is true for any country. The way in which, such decisions are taken, are also in alignment with the political machinery. So, these are the broad factors, under the heading political factors, that organisations will have to understand, interpret, based on which, they take decisions.


**(Refer Slide Time: 15:55)**

## Economic Factors

Economic factors – affect customers / companies

- Economic growth – barometer of progress
- Interest rates – key arbitrator
- Exchange rates – strength of currency
- Inflation rate – purchasing power

Controlled through fiscal and monetary reforms



The next is the economic factors. Now, why is economic factor very important. And, especially from, these two perspectives. One from the perspective of a customer. And, the other from the perspective of a company. Because, economic factors affect both. It affects a customer because, the purchasing power of a customer, is dependent on the economic environment. And, for companies, the cost of capital. The price, that it has to pay, to raise capital, is again dependent on the economic scene in which, it is doing business.

So, what are all the economic factors, that organisations would be looking at. One straight thing. Suppose, I want to enter into a new geography, or a new type of business, I would see whether historically, this business has been growing. Or, look at it from various political factors, and see what is the prospective growth, that this business, or this geography itself, has in the future. So, the growth, it could be a GDP growth, or a business growth, within a specific industry, is a barometer of progress.

And, this is the economic growth. So, I would definitely measure, the historical growth, as well as with available data, see what is the potential for growth. And hence, it is very necessary, that we need to measure, economic growth. Because, that is a proxy, to the progress. Another important parameter, that I will be looking at, is the interest rates. That is a key arbitrator. The cost of capital is directly linked, to the interest rates. At what cost, will I be able to raise capital.

Whether, it could be the debt market, or the equity market. But, interest rate is something that is very crucial, for organisations to do business. And, I am going to talk about this in detail, when I am going to give you, an interactive class on economics, as well. The next is the, exchange rates. Because, that demonstrates the strength, of the home currency. How strong, is the home currency? And lastly, the inflation rate. Because, there is directly linked with, the purchasing power of the customer.

And always, it is a tough battle between, interest rates and inflation, you understand why, later. But, for the purpose of this class, you need to know that, when you are talking about economic factors, it is about the overall economic growth, the interest rates, the exchange rates, and inflation rate. These are the four major economic factors, that organisations would be looking at. And, these are Macroeconomic. And, what type of tools are available. I am not going to spend time in detail on that.

But, we need to understand whether, proper fiscal and monetary reforms are in place, to ensure that these Macroeconomic factors, are very much under control. Because, it is very essential, that we get that confidence level, that there are enough fiscal and monetary tools in place, to ensure that these Macroeconomic indicators, the economic indicators, are controllable at times of



adversity.

(Refer Slide Time: 19:43)

## Social Factors

Demographical & Cultural

- Health consciousness – Yili, Organic
- Population growth rate – Social security
- Age distribution – demographic dividend
- Career attitudes - entrepreneurship
- Emphasis on safety

Sociology & Economics – any relationship???



The third important factor in the PEST framework, is the social factors. Business cannot exist in isolation. It is part of an ecosystem, in which the culture and demography of the ecosystem, has a significant importance on the business. Let us say, you are a multinational company. So, different countries have, different ways in which, different people live and behave. There might be a good market, a good geography in which, health consciousness is very important.

And, this was for example, Yili, which is again a Chinese dairy company. And, they are the ones, who sponsored the Beijing Olympics. When they entered Mongolia, they have a different strategy in place. Because of the lactose intolerance level of the market there, they had to be cognizant of the fact, that a market of this type is more health-conscious. And, that explains, why you have a good market for, organic foods. And, at times, it is this, that characterises the market itself.

And, it is not an exception. And, if such behaviour characterises the market, then it becomes very important for us to understand, that this geography is a little different, this market is a little different, from the usual markets in which, we do business. And, we also at times, look for population growth rate. And, if the population keeps growing, whether it has an impact on our business. And, let us say, our business is in line with, old age consumers.

Then, population growth, and especially the ageing population growth, is good news. And, suppose my business is mass consumerism, population growth is good news. And, suppose I handle funds, that come through the social security, then the more and more population, more and more social security, the more and more funds I get to handle, that is good news. And, within this population growth, the rate at which different strata grow, that is also becoming a very important indicator, nowadays.

And especially, the age distribution, very often called the demographic dividend. And, if the growth of population within, let us say, the 15 to 25, the formative years of any human being, now that is a very vibrant population. And, just to give you an example, that population, this relevant population between 15 to 25, the Indian population in this relevant age, is highest in the world.

And, suppose we have a winning product for this particular population, the entire attention will focus towards India. Likewise, career attitudes of individuals. Whether, a given society is more entrepreneurial driven, or very less risk taking. These are social factors. Whether a given society, has more importance to safety, than anything else. This could be social factors. And, there is always this, strong interaction between, social factors and economic factors.

First, the question is, there a relationship. Yes, there is a relationship. That is why, we always use this word, socio-economic factors. Because, sociology has got a lot, to do with economics. And, there is a separate study, that is being done, to understand this relationship between, sociology and economics. I am not going to spend time on that. But, it is very important for us to know, that social factors have a great impact on business decisions, that are being taken.

**(Refer Slide Time: 24:36)**

## Technological Factors

Why is it important – reduce entry barriers, improve production efficiency, influence outsourcing decisions

R&D Activity – Intel, Pharma companies

Automation – Japanese manufacturing

Technology incentives – carbon credits

Rate of technological change – Moore's Law



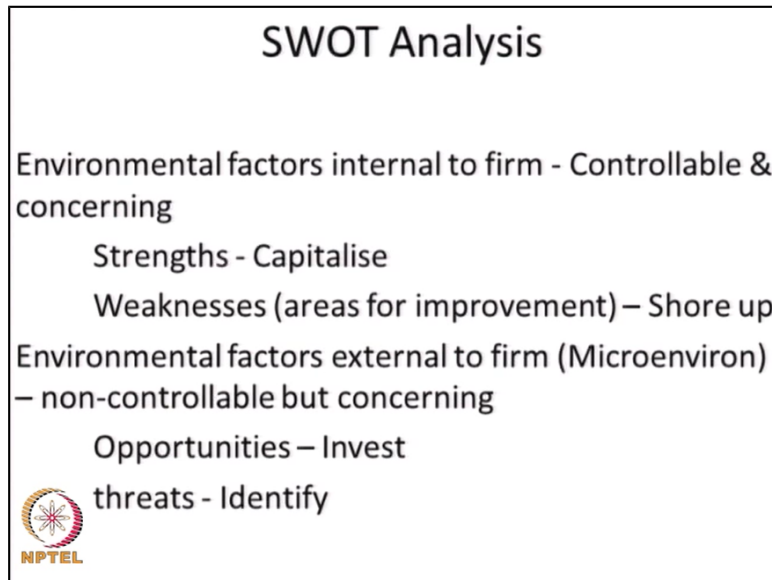
And lastly, the technological factors. Why is it important. Because, today, the rate at which technology is growing, it is making boundaries disappear. And, at times, if there is access to, very good technology that is very expensive, it is also reducing entry barriers. Technology is used to improve, production efficiency. And, what do I mean by technology factors. The intensity with which, organisations pursue R&D. And, that you can see in companies like, Intel, and other pharma companies. Or, the rate at which, they engage automation in their shop floor, which characterises the Japanese manufacturer.

Or, technology incentives. And today, we are talking about, carbon credits. How we can bring in new technologies, to reduce the carbon footprints. Or, we should also keep pace with which, the rate at which, technology is changing. That explains how, IBM took a major transition. Everybody knows about, the Moore's Law. IBM's transition from, 70's, 80's, to what it is today, is because of the rate at which, technology changed itself. And, IBM had to change, to suit to the technology changes. So, if you are in the business, you need to understand, what was also happening to the technology domain.

And, how that would impact the way in which, we are doing business today. What happened in the internet economy? And, if bookstores, are not ready to face, the internet economy, which is because of the technology transformation, then they close shop. They have to again, embrace this new technology developments, and see whether, they can do things online. So, in a nutshell, the

political, economic, social, and technology factors, and to put it in short, the PEST, is a very popular tool, that is used by organisations, to understand the external environment.

**(Refer Slide Time: 27:04)**



Having said that, the SWOT analysis is another important tool, which is got to do with, something more internal to an organisation. This includes, internal in its pure sense, as well as the macroeconomic environment, that I explained before. There are a few parameters, which are very much internal to the firm, very controllable, and concerning. And, those would be the, strengths and weaknesses of the firm. And, why do we need to identify these. We need to identify strengths of a firm, so that, we can capitalise on that.

And, weaknesses. And, many of them do not like the word, weaknesses, could be easily replaced by areas for improvement, so that we shore up on those areas of improvement. And, the Micro economic, or the Micro-environmental factors, which are concerning, but not directly controllable. And, these are the opportunities and threats. Why are they important? Because, there are good opportunities, I can invest on them. And, it is very important to identify, the threats, that an organisation has.

**(Refer Slide Time: 28:24)**

## Strengths

Resources & Capabilities to develop competitive advantage

Strong brand names (Google), Patents, Customer reputation (DHL), Cost advantages (Japanese Auto), Proprietary knowledge (Apple), Access to resources (natural), Access to distribution (Bajaj Auto, L&T), etc.



So, what is a strength to an organisation. It is those unique ingredients, resources and capabilities, which are utilised, or can be utilised to develop, the competitive advantage of an organisation. And, that could come from, any source, not necessarily tangible. It could come from, strong brand names, like Google. Or, the strength of an organisation could be, through its patents itself. Or, a good customer reputation. Or, it could get its strength from, those cost advantages, that it has built.

Or, the proprietary knowledge, that it has. Some organisations have, great strengths because, they have specific access, to certain resources. They have exclusive access, to certain resources. Some organisations build strength, from their access to distribution channels. For example, the Bajaj Auto. They also have, the Bajaj Financials. And, if they want a Bajaj Financials to be distributed, they could be distributed through, the dealership of Bajaj Auto. So, there is some coherence synergy.

And, another example, that actually on hindsight, is Larsen & Toubro. Today, they want to get in the financial services market. And, they are no longer in the cement business, had they been in the cement business. The strength, if they had started a financial services unit, would be the dealership network for the cement business. So, there are different sources of strengths, for an organisation. And, organisations capitalise on these strengths, to put in place a very sustainable competitive advantage.


**(Refer Slide Time: 30:40)**

## Weaknesses

Absence fo above

Weakness – Flip side of strength also!

Large manufacturing capacity – High fixed costs  
Operational leverage is high, price adjustment to  
market volatility



The absence of the above, in easy terms, is weakness. And, at times, the flipside of strength can also be a weakness. If an organisation is a large manufacturing capacity. And, if that is projected, to be the strength of an organisation. It also means that, it has high fixed costs. And, in financial term, this is called high operational leverage.

And, if operational leverage is very high, and if the market is so volatile, and assume that, demand is reduced. What was once the strength of an organisation, because of its huge manufacturing capacity, and high fixed cost, is no longer a strength now because, it is very difficult to adjust its prices, when market is very volatile. So, at times, strengths can also become weaknesses.

**(Refer Slide Time: 31:38)**

## Opportunities

External micro-environment analysis presents opportunities

Unfulfilled customer need (iPhone), new technologies (Computer), new regulations, backward or forward integration, etc.

Opportunities – Invest on them



The opportunities invariably come from the Micro-environment, which can be presented in different forms. It could be from, an unfulfilled customer need. When, Apple was introduced, there were conflicting theories, on the sustainable success, of Apple as a company. But, it changed the way in which, the product was positioned. It found that customers, were no longer willing to use different gadgets, for different purposes. One to call, one to take a photo, one to record a motion picture, one for computation.

So, that explains how, iPhone now, is able to do many of these. And, that addresses an unfulfilled, customer need to have everything one, in a single gadget. And, that has been one of the biggest reasons, why Apple has been successful in this business. Or, new technologies, present a lot of opportunities. And, that is very visible in the, PC or the Laptop industry. New regulations throw open, new opportunities. And, opportunities can also come from, either backward integrating, or forward integrating.

Backward integrate to see, whether you can invest, in the supplier side of the business. And, forward integration into the, customer side of the business, if you are at the institutional sales. And, if you are able to identify, the right set of opportunities, which is in alignment with your business objectives, or it is going to again further, the strengths of the organisation, or throw up new businesses, and that is where, investment has to go.


(Refer Slide Time: 33:49)

## Threats

Some micro-environmental changes can also pose threats

- Emergence of substitute products – online education
- Customer shifts, regulations, etc.

Threats – Identify them




At times, some of those changes happening in the Micro-environment, can also pose threats to the organisation. Could be a, sudden emergence of a substitute product. Today, online education is a big threat, to established formal educational mechanisms. And, if there is a customer shift, to these new deliverables, then there is a big threat to the organisation. Regulations will also change completely, and make an un-positioned, unfavourable, for an organisation. And, that is also a threat. So, we need to identify, possible threats also, an existing threat as well.

(Refer Slide Time: 34:39)

## The SWOT Matrix

	Strengths	Weaknesses
Opportunities	S-O strategies	W-O strategies
Threats	S-T strategies	W-T strategies

- S-O strategies** Leverage opportunities that are a good fit to strengths.
- W-O strategies** Address weaknesses to engage with opportunities.
- S-T** Use strengths to reduce vulnerability to external threats.
- W-T strategies** Defense plan to prevent weaknesses making it highly susceptible to external threats.



So, when we are able to do this, if we are able to identify, strengths, weaknesses, opportunities,



and threats, for any given firm, then we have a set of strengths, weaknesses, opportunities, and threats. And, we need to take a decision, as to how, we can move forward. Whether, I leverage on the strength-opportunity combination, or the weakness opportunity, or the strength-threat, or the weakness-threat combination. And, if I decide to say that, it is going to be the strength opportunities, then it make sense because, it leverages opportunities, that are a good fit to the strengths.

Or, the weakness-opportunity strategies, in which case, I will address those weaknesses, so that they can engage with emerging opportunities. Or, I can put a strategy in place, that combines the strengths and threats, so that I am able to use, the strength of an organisation, to reduce the vulnerability of external threats. Or, the last one could be a weakness-threat strategy, which in a sense, is building a defence plan, to prevent the weaknesses, and make it susceptible to external threats.

And this, I will be able to do, if I am able to identify at the first place, what strength, weaknesses, opportunities, and threats, the organisation has. So, the environmental scan, that we were talking till now, can be viewed, externally through the PEST model, and internally through the SWOT. These two are the most popular models, that are being used. Not the only models, but these two are the most popular models, that are been used.

To understand, from a firm's perspective, how factors that are external to an organisation, and how factors that are internal, and very much within the vicinity, which I call the Micro-environment, affects the conduct of business. This is very essential, for firms to do. Because, if we are missing these, then it is very difficult to have, a sustainable strategy in place.

**(Refer Slide Time: 37:21)**

## Strategy Loop

- Strategy shaping factors external to the company  
+ Strategy shaping factors internal to the company
- How does this combination of factors stack up
- Identify & evaluate strategic alternatives
- Implementation of strategy
- Evaluate & feedback mechanism
- Iterative loop



So, if we undertake, to come out with a strategy for an organisation, then we need to understand, the strategy shaping factors, which are external to the company, to the organisation. Combine them with the factors, that are internal to the organisation. And, how these factors stack up. And, after doing this, we have to use various strategic models, that are available. Identifying, and evaluating, what is the right strategic model. For which, we need to first also understand, that these strategic models are in best fit, with the objectives of the organisation.

And then, evaluate from those, the best strategy, that we need to put in place. Implement them. And, after implementation, evaluate the output, feedback, and see where, what went wrong, where. And, if it is successful, how we can leverage on the success. And again, an iterative loop. So, it is a loop in which, what we saw now, was the first part, how factors that are external and internal, are essential in shaping, the strategic thought process.

And, for factors that are external, we use the PEST analysis. And, factors that are internal, we use the SWOT analysis. And, a quick recap of this, I will just leave, a video for you to watch. A small 8-minute video, that explains both, SWOT as well as PEST, with some examples, for you to better appreciate, why PEST and SWOT is essential, from an environment scan point of view. Thank you.

**(Refer Slide Time: 39:26)**

<http://www.youtube.com/watch?v=GNXYI10Po6A>



**(Refer Slide Time: 39:28)**

<http://www.youtube.com/watch?v=UZ4GcPmfZa>

