

- **Current Situation:** 2/3 of humanity lacks radiology access.

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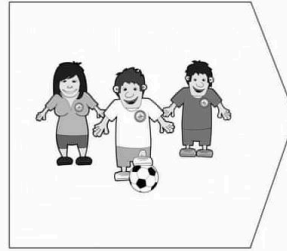
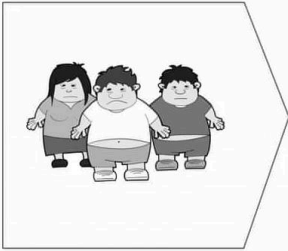
This lecture is a continuation of the previous lecture that introduced the Impact Framework Canvas before. Here we will continue with our example of the digital X-ray imaging system that we introduced recently. To facilitate continuity we stick with our logos from the previous examples to represent the various stages. Again, as we did in our simplified example, before we begin, we start by defining the problem at hand. In this case the problem we have is that today there are about 15 million road traffic accident victims per year of which 90% live in low and middle income countries. While pulmonary diseases account for 14% of all deaths world wide. X-ray imaging radiology is the gold standard for the diagnosis and care of patients with pulmonary diseases and for trauma victims from road accidents. However two thirds of humanity still have no access to radiology and this lack is mainly in low and middle income countries.

Notes

Summary



# Define Desired Impact



- **Desired Impact:** Reduce morbidity & mortality from trauma & pulmonary morbidities
- **How:** Increase radiology access by deploying GDX

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In response to this critical social health problem we have coined a long term objective or desired social impact, which is to reduce illness and deaths from trauma related and pulmonary morbidities in low and middle income countries. And how will we do this? By increasing access to radiology for the diagnosis of these indications through the availability and use of a cost-effective robust digital X-ray imaging system, that is the GDX machine described before. But also, along with training and maintenance or repair services that are critical for the continued function of the machine.

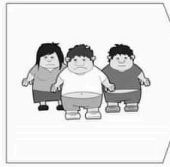
Notes

Summary



1m 33s

# Define Impact Framework



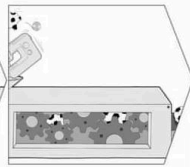
## Situation:

- Low Radiology access
- High mortality & morbidity



## Inputs:

- Context info
- Expertise
- Capital



## Activities:

- R&D, prototype
- Develop Training
- Develop Deployment Plan



## Impact:

- Low morbidity & mortality.
- Skilled X-ray staff.

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We then need to work backwards in order to identify and define all the necessary and sufficient conditions or sequence of outcomes that are required and must be in place for the impact to occur. As we saw before the whole impact framework consists of five stages. The first stage is inputs, which refers to the resources that need to be deployed in order to enable the implementation of tasks. In our case, we identified the following vital inputs. One, context information. As discussed in an earlier lecture this essentially refers to the information about the context of the low and middle income regions which is related to economics, infrastructure, personnel and environmental and physical factors as well as governance issues. Expertise, notably Engineering and Medical expertise in order to carry out the required R&D to produce the prototype. Capital, in order to fund the required operations. The next thing to specify is Activities, which we can define as the actions and/or tasks that must be performed in support of specific impact objectives.

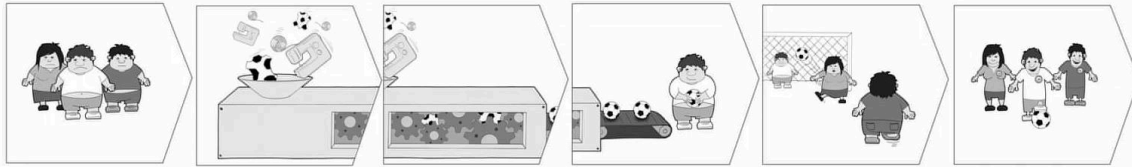
Notes

Summary



2m 34s

# Define Impact Framework



## Situation:

- Low Radiology access
- High mortality & morbidity

## Inputs:

- Context info
- Expertise
- Capital

## Activities:

- R&D, prototype
- Develop Training
- Develop Deployment Plan

## Outputs:

- GDx Machines
- Training
- Deployment Plan

## Outcomes:

- Increased access & diagnosis.
- Skilled personnel

## Impact:

- Low morbidity & mortality.
- Skilled X-ray staff.

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In this case the key activities that we identified were to develop an affordable and robust medical X-ray imaging system, the GDx system and also to develop a training module to enhance proper use and machine longevity as well as develop a maintenance & repair plan and infrastructure to ensure annual maintenance and prompt repair when needed, while also developing a marketing plan to promote the GDx machine to buyer stakeholders and enhance its uptake. After that we must describe the outputs which are essentially the tangible products and services that result from the activities undertaken. In our case this would be a fully certified GDx X-ray system that is available in low and middle income regions as well as tutorials and other support modules that would be on the machine or online along with the certificate bearing training program that is accredited by the relevant national authorities whenever possible. Also a deployment plan, which includes marketing and other plans in order to create awareness and promote sales and uptake of the machine. Then we come to the outcomes, which essentially refers to the changes or effects on individuals that follow from the delivery of products and services.

Notes

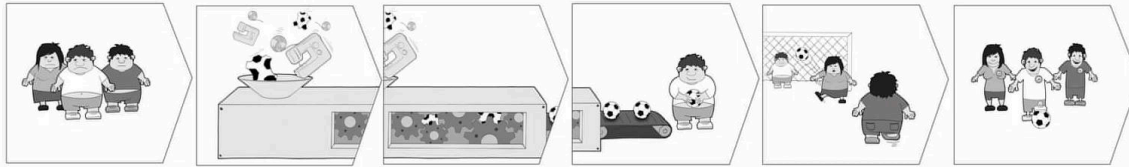
Summary



3m 53s



# Define Impact Framework



## Situation:

- Low Radiology access
- High mortality & morbidity

## Inputs:

- Context info
- Expertise
- Capital

## Activities:

- R&D, prototype
- Develop Training
- Develop Deployment Plan

## Outputs:

- GDx Machines
- Training
- Deployment Plan

## Outcomes:

- Increased access & diagnosis.
- Skilled personnel

## Impact:

- Low morbidity & mortality.
- Skilled X-ray staff.

## Intermediate:

- Sustained GDx use.

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Here our expected outcomes include an increase in the number of hospitals, especially rural hospitals, who have the GDx system that the personnel operating the GDx system have appropriate skills to operate it. An increase in the number of diagnosed patients showing up with morbidities linked to orthopedic trauma in the hospitals that have the GDx imaging system. Increased access overall to radiology and diagnosis of trauma related and pulmonary morbidities in low and middle income countries. In this case we also define an intermediate outcome which is basically the aggregate result from the outcomes just before your impact. In this case you have defined it as the sustainable and effective use and maintenance of diagnostic machines by population which is expected to be achieved if outcomes listed before do occur.

Notes

Summary



5m 18s

# Our Assumptions & Drivers



1. If GDx available, clients will buy it.
2. Clients have the funds.
3. No major contextual changes.

**Verify** assumptions and adjust, if required.

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So we have now established our set of sequential inter-dependent outcomes that collectively comprise our theory of change. Now the next step is to identify what our basic assumptions are. Bearing in mind that documenting and justifying assumptions is a continuous and often iterative process. As we progress through our framework and produce our outcomes it remains necessary to check and explain if and why they are necessary. And here we do not list all the possible assumptions but only the key ones. Our first assumption is that if the GDX machine is available in the market, then our potential buyers such as governments or NGOs will actually buy it. And another related assumption to this is that the potential buyers will actually have availability and/or access to funds to acquire machines. We have also made an assumption that the contextual situation will remain largely as it is and that there will be no radical contextual changes, such as political, social, environmental, or economic changes in the countries and regions we're interested in. If any of these assumptions turn out not to be correct our progress to impact might be severely hampered so it is very important to continuously verify your assumptions and be prepared to adjust them accordingly, if necessary.

Notes

Summary



6m 22s

# Our Assumptions & Drivers



1. If GDx available, clients will buy it.
2. Clients have the funds.
3. No major contextual changes.

**Verify** assumptions and adjust, if required.

**Impact Driver:** Continued staff training.

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The next step is what we called step four in the introduction lecture, and it is about identifying the interventions that our initiative will perform to create our desired changes that is, outcomes and impact. Earlier on we listed our intermediate outcomes to include sustainable and effective use as well as maintenance of the GDX machines by the hospitals. So what will be the key impact driver here? Of course the availability of qualified personnel to operate the machines is very essential to ensure sustainable and effective use. Certainly we can intervene here by making sure that there is continued training of the personnel involved with the X-ray machines, such as technicians and doctors. This can also be a mechanism to address the problem of high personnel turnover that can be prevalent in these regions.

Notes

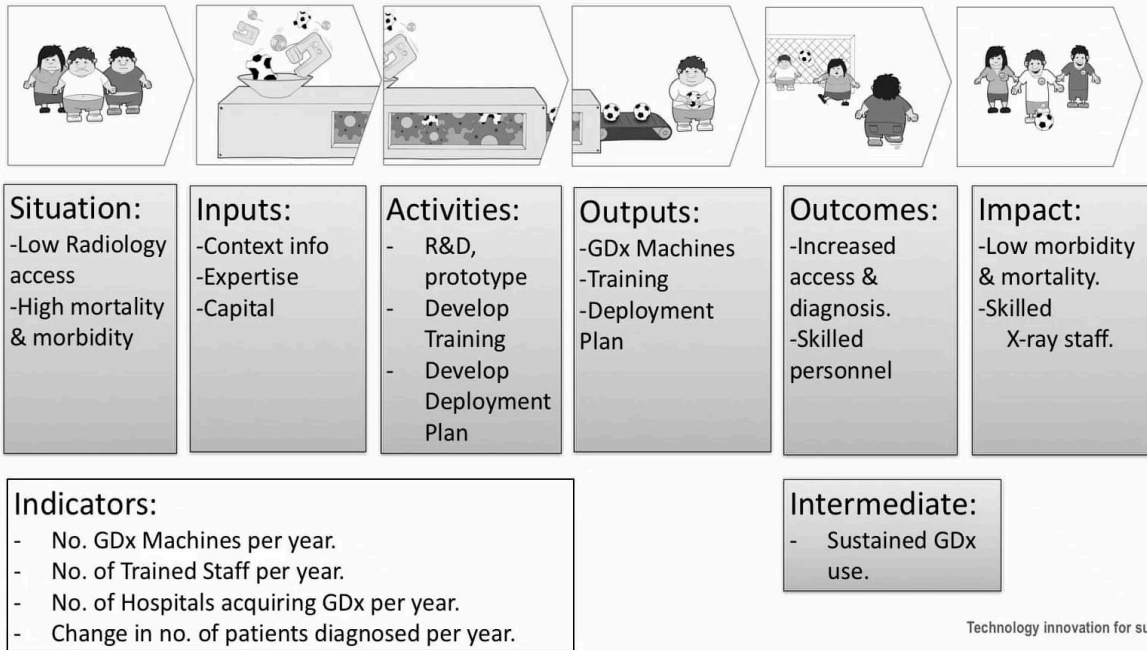
Summary



8m 03s



# GDX Impact Framework



As we said in the previous lecture you need to establish how you will measure and monitor the implementation and effectiveness of your initiative. By collecting data on the results as you go along you can identify what is or is not working and find out why. This is accomplished by using indicators, which you will monitor or measure at the various points when they occur. In the case of our GDx machine one of the initial and most important indicators will be the number of GDx machines produced every year. Because, unless a sufficient number is produced every year the rest of the planned activities cannot occur effectively. And subsequently even if the condition of adequate supply is true, if there are not enough hospitals actually acquiring the machine then we have a problem towards our impact and objective. Thus the number of hospitals acquiring the GDx machines produced every year as well as the number of X-ray staff completing training per year are both very important indicators to monitor and measure. Of course, if all these ideas are true then the next key question is the number and increase in the number of patients that are actually being diagnosed with the GDx machines per year. So, finally our GDx impact framework looks like this after we add the indicators as well.

Notes

Summary



9m 08s



- Social Return on Investment
- $\text{SROI} = \frac{\text{Present Value of Benefits}}{\text{Total Value of Inputs}}$

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Before we conclude the section on impact definition I also want to briefly introduce another emerging but potentially important related concept namely the Social Return on Investment. In all likelihood most of you will need to raise funds to help execute your projects and fund raising can be done from foundations as grants or from investors or other financial sources as equity or debt. In order to help your project to become more attractive to the potential funder or investor, it may be helpful if you also attach some kind of monetary value to the impact you aim for. To help you do this, a widely used method 188 00:11:29,850 --> 00:11:34,238 is to calculate what is termed the Social Return on Investment or SROI. Which, if you like, could be conceptually equivalent to a Return on Investment in a traditional business plan. Social Return on Investment is an essentially a method for measuring non-financial value relative to the resources invested, that is, value such as environmental and social factors that would not be reflected in conventional financial accounts. The SROI is usually presented as a ratio, the SROI ratio, which is simply the numerical total value of benefits over the value of inputs or investments.

Notes

Summary



10m 46s



- Social Return on Investment
- $SROI = \frac{\text{Present Value of Benefits}}{\text{Total Value of Inputs}}$

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Impact investors and funders may use this metric to prioritize projects or ventures to fund. For you, you can also use it to prioritize which innovations or applications to develop or focus on if you are confronted with various options, for example. We will not have the time to discuss an example in this lecture, unfortunately, but we have provided a comprehensive list of references that we highly recommend you consult for further details. So to summarize, SROI is generally used as a tool to provide a numerical estimate of the social value of the project. Similarly to the computation of the expected return from a project in finance. Expected return is used to gauge the potential value of the given project prior to its selection or implementation and it can help select or prioritize projects. Similarly, social return on investment metric is used at the beginning of the whole process but not generally to measure outcomes at the end.

Notes

Summary



12m 22s

# Concluding Perspectives



So, to conclude, we hope that the two lectures have given you a fundamental insight on how to use the impact canvas tool to develop your impact framework for your project. We will revisit the use of this tool and see how it can be integrated with another powerful canvas tool, the business model canvas. in order to give rise to, what we term the sustainable business model business canvas tool. Goodbye.

Notes

Summary



13m 32s