Chapter 1 : Research And Development (R&D)

Religious systems as culturally constituted defense mechanisms, by M.E. SpiroSocial character. An agrarian "fighter," by P. Friedrich. An approach to the historical study of national character, by M.G. Murphey.

Reprinted with permission from AOPO. Thus, for each organ the candidates on the waiting list who are medically able to receive a transplant and who are at the greatest risk of dying without a transplant are given priority UNOS, b. Factors associated with dying from end-stage organ failure differ among organs. Therefore, the criteria used to objectively determine priority to receive a transplant vary depending on the organ in question OPTN, i. For example, patients suffering end-stage kidney disease can be supported by dialysis for extended periods of time. However, despite recent improvements, the 5-year survival of patients with end-stage kidney disease remains low when compared to survival following deceased donor transplant, 42 percent versus 76 percent, as of Saran et al. Hence, the time spent on the waiting list is one of the most decisive factors in determining patient priority to receive a donor kidney OPTN, i. Opportunities for Organ Donor Intervention Research: The National Academies Press. Even with these efforts to prioritize the most dire cases, thousands of patients die each year for want of a donor organ. The 58 OPOs in the United States are responsible for obtaining and verifying authorizations for organ donations and for working with donor hospitals to procure and allocate organs from deceased donors. If research followed by transplantation organ donor intervention research has been authorized, the research intervention would be administered to a deceased donor prior to organ recovery or to the target organ after the organ has been recovered but before transplantation. When the research intervention is administered prior to organ recovery and the intent is to have an effect on a specific organ i. As a result, many transplant recipients across multiple transplant centers could become human subjects in a single organ donor intervention research study. The goals of such research are to improve the quality and increase the quantity of organs for transplantationâ€”and, specifically, the intent of this research is to identify interventions that will allow the maximum number of transplantable organs to be recovered in a condition that will result in the best possible organ graft function in the recipient. If the transplant team determines that the organ is acceptable, it will contact the potential recipient to determine his or her current state of health and interest in proceeding with the transplantation. In order that the organ be maintained in optimal condition, the decision of whether to accept an organ offer and move Page 31 Share Cite Suggested Citation: After transplantation, patients receive extensive follow-up care. The data can be accessed by searching in multiple ways including by transplant program, recipient and donor demographics, the number and type of transplants performed, and the outcomes for organ grafts and transplant recipient survival within the first year after transplant. Although practices vary by OPO, OPTN has issued broad guidance on the routine sharing of standard information and the coordination of communication between donor families and recipients. According to the guidance, recipients may express their gratitude through notes that are reviewed by and exchanged through the OPO to donor families, if they are receptive, and donor families may respond OPTN, Because deceased organ donation involves the death of one human being resulting in the gift of one or more donor organs to one or more transplant candidates, the transplantation process is closely intertwined with the emotions that surround death and dying. The committee carefully considered the terms used in this report and emphasizesâ€”as do others in the donation and transplantation communityâ€”that the terms used to describe and the depiction of organ donation and transplantation need to be clear, accurate, transparent, and respectful. Honoring the donation and reflecting the high scientific rigor of this process are critical. For this study, the terms used in discussing deceased donation are particularly relevant. Death is determined using neurologic or cardiac and respiratory criteria. Neurologic determination of death refers to the determination of death by irreversible cessation of all functions of the Page 32 Share Cite Suggested Citation: Circulatory determination of death indicates a determination of death made by observing the irreversible cessation of cardiac and respiratory function i. The terms used to describe the removal of the organs from the deceased individual have evolved over time IOM, Much remains to be learned about the impact of research interventions in deceased donors on the non-target organs. The available literature and

public policies use several of the following: The committee affirms what was previously said in the Institute of Medicine report:

Chapter 2 : Spiro offers Inplant Training in Chennai for CSE

Introduction / by R.D. Folgelson and M.E. Spiro --Ethnology and social organization: Childhood among the Yakutat Tlingit / by F. De Laguna ; Algonkian social organization / by G.P. Murdock --Religion: The self, the behavioral environment, and the theory of spirit possession / by E. Bourguignon ; Religion, death, and evolutionary adaptation / by.

In fact, most established consumer goods companies dedicate a significant part of their resources towards developing new versions of products or improving existing designs. However, where most other firms may only spend less than 5 percent of their revenue on research, industries such as pharmaceutical, software or high technology products need to spend significantly given the nature of their products. Basic Research When research aims to understand a subject matter more completely and build on the body of knowledge relating to it, then it falls in the basic research category. This research does not have much practical or commercial application. The findings of such research may often be of potential interest to a company Applied Research Applied research has more specific and directed objectives. These investigations are all focused on specific commercial objectives regarding products or processes. Development Development is when findings of a research are utilized for the production of specific products including materials, systems and methods. Design and development of prototypes and processes are also part of this area. A vital differentiation at this point is between development and engineering or manufacturing. Development is research that generates requisite knowledge and designs for production and converts these into prototypes. Engineering is utilization of these plans and research to produce commercial products. Thought there is often overlap in all of these processes, there still remains a considerable difference in what they represent. This is why it is important to understand these differences. This is systematic creative work, and the resulting new knowledge is then used to formulate new materials or entire new products as well as to alter and improve existing ones Innovation Innovation includes either of two events or a combination of both of them. These are either the exploitation of a new market opportunity or the development and subsequent marketing of a technical invention. A technical invention with no demand will not be an innovation. New Product Development This is a management or business term where there is some change in the appearance, materials or marketing of a product but no new invention. It is basically the conversion of a market need or opportunity into a new product or a product upgrade Design When an idea is turned into information which can lead to a new product then it is called design. This term is interpreted differently from country to country and varies between analytical marketing approaches to a more creative process. Product Design Misleadingly thought of as the superficial appearance of a product, product design actually encompasses a lot more. It is a cross functional process that includes market research, technical research, design of a concept, prototype creation, final product creation and launch. Usually, this is the refinement of an existing product rather than a new product. Often, the required knowledge already exists and can be acquired for a price. The influence of the following factors can help make this decision. Proprietariness If the nature of the research is such that it can be protected through patents or non-disclosure agreements , then this research becomes the sole property of the company undertaking it and becomes much more valuable. Patents can allow a company several years of a head start to maximize profits and cement its position in the market. On the other hand, if the research cannot be protected, then it may be easily copied by a competitor with little or no monetary expense. In this case, it may be a good idea to acquire research. In a fast paced environment, competitors may rush ahead before research has been completed, making the entire process useless. In this regard, it may be desirable to acquire the required research to convert it into necessary marketable products. There is significantly less risk in acquisition as there may be an opportunity to test the technology out before formally purchasing anything. Cost Considering the long term potential success of a product, acquiring technology is less risky but more costly than generating own research. This is because license fees or royalties may need to be paid and there may even be an arrangement that requires payments tied to sales figures and may continue for as long as the license period. There is also the danger of geographical limitations or other restrictive caveats. In addition, if the technology changes mid license, all the investment will become a sunk cost. There needs to be massive initial investment that leads to

negative cash flow for a long time. But it does protect the company from the rest of the limitations of acquiring research. All these aspects need to be carefully assessed and a pros vs. Manufacturers of a variety of products utilize this process for new product development and innovation. Though each company or industry may have its own unique research methodology, a basic research process will form the framework for it. Foster Ideas At this point the research team may sit down to brainstorm. The discussion may start with an understanding and itemization of the issues faced in their particular industry and then narrowed down to important or core areas of opportunity or concern. Focus Ideas The initial pool of ideas is vast and may be generic. The team will then sift through these and locate ideas with potential or those that do not have insurmountable limitations. At this point the team may look into existing products and assess how original a new idea is and how well it can be developed. Develop Ideas Once an idea has been thoroughly researched, it may be combined with a market survey to assess market readiness. Ideas with true potential are once again narrowed down and the process of turning research into a marketable commodity begins. Prototypes and Trials Researchers may work closely with product developers to understand and agree on how an idea may be turned into a practical product. As the process iterates, the prototype complexity may start to increase and issues such as mass production and sales tactics may begin to enter the process. Regulatory aspects are assessed and work begins to meet all the criteria for approvals and launch. The marketing function begins developing strategies and preparing their materials while sales, pricing and distribution are also planned for. Launch The product that started as a research question will now be ready for its biggest test, the introduction to the market. The evaluation of the product continues at this stage and beyond, eventually leading to possible re-designs if needed. At any point in this process the idea may be abandoned. Its feasibility may be questioned or the research may not reveal what the business hoped for. It is therefore important to analyze each idea critically at every stage and not become emotionally invested in anything. It can significantly contribute towards organizational growth and sustained market share. However, all business may not have the necessary resources to set up such a function. When all employees are encouraged to think creatively and with a research oriented thought process, they all feel invested in the business and there will be the possibility of innovation and unique ideas and solutions. This mindset can be slowly inculcated within the company by following the steps mentioned below. If it is successful, encourage employees to identify reasons for success so that these can then be used as benchmarks or best practices. If the product is not doing well, then encourage teams to research reasons why. Identify Objectives Allow your employees to see clearly what the business objectives are. The end goal for a commercial enterprise is to enhance profits. If this is the case, then all research the employees engage in should focus on reaching this goal while fulfilling a customer need. Define and Design Processes A definite project management process helps keep formal and informal research programs on schedule. Realistic goals and targets help focus the process and ensures that relevant and realistic timelines are decided upon. Create a Team A team may need to be created if a specific project is on the agenda. This team should be cross functional and will be able to work towards a specific goal in a systematic manner. If the surrounding organizational environment also has a research mindset then they will be better prepared and suited to assist the core team when ever needed. Outsource Whenever needed, it may be a good idea to outsource research projects. Universities and specific research organizations can help achieve research objectives that may not be manageable within a limited organizational budget. These include the following. Tax breaks Research and Development expenses are often tax deductible. This depends on the country of operations of course but a significant write-off can be a great way to offset large initial investments. But it is important to understand what kind of research activities are deductible and which ones are not. Generally, things like market research or an assessment of historical information are not deductible. Costs A company can use research to identify leaner and more cost effective means of manufacturing. This reduction in cost can either help provide a more reasonably priced product to the customer or increase the profit margin. Financing When an investor sets out to put their resources into any company, they tend to prefer those who can become market leaders and innovate constantly. Recruitment Top talent is also attracted to innovative companies doing exciting things. With a successful Research and Development function, qualified candidates will be excited to join the company. These can help them gain market advantage and cement their position in the

industry. This one time product development can lead to long term profits. These may include the following. High Costs Initial setup costs as well as continued investment are necessary to keep research work cutting edge and relevant. Not all companies may find it feasible to continue this expenditure. Uncertain Results Not all research that is undertaken yields results. Many ideas and solutions are scrapped midway and work has to start from the beginning. It is important for any business to understand the advantages and disadvantages of engaging in Research and Development activities. In the meanwhile, it is good practice to inculcate a research mind set and research oriented thinking within all employees, no matter what their functional area of expertise. This will help bring about new ideas, new solutions and an innovative way of approaching all business problems, whether small or large.

Chapter 3 : Educational Research: An Introduction - Walter R. Borg, Meredith Damien Gall - Google Books

The chemical interactions between spiroâ€•MeOTAD + and I âˆ’ taking place at the perovskite/spiroâ€•MeOTAD HTM was also shown to induce degradation. The interface between spiroâ€•MeOTAD and top electrode (Au or Ag) was also reported to lead to degradation of PSCs.

Chapter 4 : Research and Development (R&D) | Overview & Process

These activities come under the Research and Development (R&D) umbrella. R&D is an important means for achieving future growth and maintaining a relevant product in the market. There is a misconception that R&D is the domain of high tech technology firms or the big pharmaceutical companies.