

MIS 750 – Strategic Project Management

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**Section 1 – Overview of organization, tell me about the organization so I have context for the charter**

The San Diego State University is a public university mainly located in San Diego (CA), with other two branches: one in Imperial Valley (Calexico, CA), and one in Georgia. Its main strategy to compete is to offer the best education possible with reduced costs **(cost leader strategy)** that does not exclude a high level of offered education, regarding that strategy it occupy the position of cost leader. With more than 34000 students, the San Diego State University detain definitely the strategic position of cost leader in the state of California and is one of the most highly rated universities for the ratio costs/quality of education. Other goals promoted are community involvement, student success, research endeavors, and internationalization. Strategic goals summary:

* Cost reduction
* Student Success
* Community and Communication
* Research endeavors
* Diversity
* Internationalization

**Section 2 – Program Charter**

1. **Justification**

***Tangible Benefits:***

* **Costs reduction:** less energy consumption shows consistently a cost reduction, but there is also another factor of reduction to consider. The un-used energy will be sold.
* **New degree courses creation:** environmental sustainability will be also used for the creation of new degrees or career tracks. That will consistently align this program also with the other strategic goals.
* **Enhance revenues:** the unused energy will be sold + raw materials from recycle materials + the new expected subscriptions.
* **Subscriptions improvement:** we expect after 3 years from the new degree creation, an improvement of 3000/4000 students, justified by the “big trend” that the sustainability is.

**Intangible benefits**

* **Return of image**: an organization that offer sustainability courses, is able to reach the 95% of recyclable (that will be possibly sold as raw materials), will definitely be more coherent to the eyes of the community. In other words, coherency will be translated in: more subscriptions (since the environmental sustainability is the “big trend”) and variable cost reduction (taxes on the produced trash).
* **Improvement of workers and students’ satisfaction**: as sustainability is the big trend, known to be part of an organization that is aligned with the trend will definitely provide more satisfaction.
* **The reduction of the energy consumption**, the new attention on sustainability shown by the new courses and eco-friendly practice (recycling and reverse vending), in a long/medium optic will reduce the incidence of health disease.

**Timing**

The program will last for 5 years

**Strategy**

* **Creation of environmental sustainability career tracks for master degrees**
  + **Pilot project**
    - Using already existent classes
    - Two majors
      * Business
      * Engineering
  + **Implementation**
    - Faculty creation and Advising
    - Social media campaign to improve subscriptions
* **Recycling** 
  + **Improve the efficiency (from 72% to the 95% in 5 years) through:**
    - Reverse Vending for students and customers (many reverse vending machines will be installed in the campus and college area. Those will be sold and further regenerated and the expectation of compensation will definitely enhance the percent of efficiency.
* **Solar panel and energy efficiency**
  + Use and extend the existing technology o some building of the campus to other buildings for solar cogeneration (physics building)

Since the cost leadership is the 1st strategic goal for importance that the organization wants to achieve and retain, and then the location of the organization puts it in a condition that the environmental sustainability is not just something to preserve the state of the environment. Therefore, to take care of the costs in an environmental-saving point of view is a strategic goal to achieve the strategic goal of cost reduction. The implementation of the sustainability program, wants to improve the auto supply of energy and the reach of the highest rate of recycling.

It is clear that there are few, or no, other area of cost reduction. Therefore, to achieve and retain the cost reduction goal it is essential the implementation of a sustainability program.

1. **Vision**

The main purpose of this program is, to create a system that, after the end of the program itself, will continue to create value through the continuing of the project and activities of the object of the program. Therefore, after the program end it is expected to:

* To establish a new and more transversal degree courses with a sustainability environmental background, that will generate more value in terms of research, number of students and quality of the offered education.
* A trash-waste free campus: the philosophy behind this point is to create and maintain recycling system that aspires to reach the 100% of recycling. The other face of the medal is that this model could be considered as an incubator for a large-scale model extendible to a larger community.
* Extend the use of the solar panel to reach 30% of the requirement.

1. **Strategic Fit**

* Improve the offer, in terms of number and quality, of environmental sustainability degrees that represent the “big trend” of the next workers generation (student success strategic goal). Therefore, these improvements want to offer to students more opportunity of success in the next future. The produced knowledge will be used to support the other point of the program.
* To maintain and improve the consistent percent of recycled trash gathered in the campus, which will allow the obtainment of more consistent tax reduction (cost reduction strategic goal) and social in terms of minor incidence on public health. Plus, implement the reverse vending system (Community and Communication goal).
* Improve the presence of high-tech solar panel where economically convenient to marginalize the energetic dependence, and therefore to marginalize the energetic costs. On the other hand, it will represent an opportunity to stimulate the research for new, superior technology in the solar panel area (research endeavors strategic goal). The community will note fewer emissions and consumption if well publicized; therefore it will improve the reputation and the presence on the media (community and communication strategic goal).

1. **Outcomes**

|  |  |
| --- | --- |
| **Vision** | **Key Benefit** |
| New Degrees Creation | Improvement of researches in environmental sustainability + student retain + more revenues from tuition |
| Waste-free campus | Less taxes on landfill, sell the gathered recyclable waste |
| Solar panel | Reach the 30% of energetic daily consumption |

1. **Scope**

For each component of the program below is going to be listed what is in the scope and what is not.

* **Creation of new environmental sustainability degrees**
  + **Included**
    - **Use existent classes for the creation on new career track with two majors, engineering, and business.**
    - **Social media campaign**

**Reasons of inclusion:** To create sustainability models will be needed both an engineering and business part that represent the two faces of the same medal in the business environment. Engineering could take care of the creation of sustainability models, business could make them marketable. A social media campaign is a required commitment to attract potential customer attention.

* + **Excluded**
    - **Creation of new departments**
    - **Creation of new faculty**

**Reasons of exclusion:** the creation of ex-novo structures (organizational and concrete) would represent high cost. Therefore, to reduce the risks of losses in case of failure, it is recommended to use existent organizational structures either business or engineering.

* **Recycling** 
  + **Included:**
    - **Reverse vending machines project**
    - **Improve effectiveness of recycling**

**Reasons of inclusion:** Since the recycling program reach the 70%, it will represent a booster for the 95% objective to offer a monetary compensation to whom recycle more (this model already exists in Scandinavia countries). On the other hand, to enhance the recycling effectiveness will allow the organization to re-sell recycling material and to reduce taxes costs for less production of landfill waste.

* + **Excluded:**
    - **In house compost creation**
    - **Raw material re-generation**

**Reasons of exclusion:** The creation of in house compost facility is excluded because it is not insurable a high level of quality, plus the bad smell in campus could affect our customers. The raw material re-generation is excluded because of the high investment costs.

* **Solar Panel:**
  + **Included** 
    - Use of transparent solar panel on high solar exposed windows (experimental technology)
    - Installation of high efficiency solar panel on high exposed areas

**Reasons for inclusion:** The experimental technology of transparent solar panel will allow improve the solar energy production avoiding the improvement for heating costs and is more largely applicable. To cover the more sun-exposed areas with high efficiency panels will improve the energy production (saving on energy bills and potentially by selling the overproduction).

* + **Excluded**
    - **Over installation of panels where is not convenient**
    - **Installation without co-investment or with not balanced investment**

**Reasons for exclusion:** since solar panels represent a high cost investment that will start to produce economic benefits in 3 years, each installation should have an acceptable ROI. The co-investment is fundamental to ensure the installation and the involvement of the business community.

1. **Benefit Strategy**

**New degrees creation**

Improve the student retention using already existent graduate classes that would deliver new value to them with different background. Number of subscriptions at the early stage (test phase), Improve the researches publications with environmental sustainability object.

* Stakeholders involved: student, professor, faculty)
* Measurement: Number of subscriptions at the early stage, the cumulative expected after 5 years is 3000)

Student success after graduation Number of students occupied in environmental sustainability

* Stakeholders involved: students, business partners

Social media campaign

* Number of international, number social media occupied, posted material coverage and rate
* Stakeholders involved: Organization, prospective customers

Partnership reinforcement and stipulation of new

* Stakeholders involved: community, sponsors, project managers, industries.
* Measurement: number of new project with old partners, amount of grant gathered for the new projects, number of new partners for the projects of the program.

**Recycling**

Less taxes on landfill, sell the gathered recyclable waste through the implementation of a reverse vending system.

RedID# system for the reverse vending test machine

* Stakeholder involved: students, professors, area shops, sponsors, and industries.
* Measurement: number of subscriptions.

Rent spots on the machine for commercial

* Stakeholders involved: industries, area shops.
* Measurement: fraction of spots rented, amount money raised.

Landfill tax reduction

* Stakeholders involved: organization, community
* Measurement: amount of saved taxes

**Solar panel**

Installation in co-partnership new solar panels with advanced technologies.

* Stakeholders involved: Industries, program sponsors, project managers, community.
* Measurements: amount of grant gathered, amount of solar project installation feasible.

1. **Assumptions and Constraints**

**Assumptions**

Family wages level and school fees will continue to remain at an acceptable level for the next 5/6 years.

The reverse vending will be still a niche practice for the next 5/6 years

The actual solar panel companies are searching for partnership to testing the their new products.

**Constraints**

* **Project Budget** 
  + Budgets are assigned at n.11. The requested budget for the program is higher than the sum of the budget of the single components to remunerate the program and give help to those components that will need, under justification, a budget improvement.
* **Project Schedule** 
  + The schedule is defined in the timeline point, but it crucial to understand that for certain components the time schedule is more a risk than a constraint (e.g. finding funders or partners). Therefore, for those identified high schedule time risk a temporal bearing will be considered.
* **People** 
  + Most people that take part of project team are selected from the organization itself, therefore it will be not a matter of affordable personnel, but a lack of knowledge is expected. Therefore, in the selection of the components (external) will be selected workers with skills that are different than inner workers.

1. **Components**

**Careers creation:**

* Creation of two careers track in master’s degree, two majors: Business and Engineering. Eligible classes for to characterize the tracks.
* Internal advertising of the tracks, focusing on the importance of the environmental sustainability using high impact pictures (e.g. the coins found in the turtle stomach)
* Gather data about the tracks’ results (final GPA, Occupation rate)
* Start a social media campaign to gather more students from other universities (national and international) leveraging on the occupation opportunities and founding more partnership with companies (internship and co-investment on solar projects).

**Recycling project**

* Using the existing database of students, faculty, and staff (Red ID based), implement a REDID# scan to access to the reverse vending machines.
* Install a Reverse vending machine in the busiest spot of the campus (test phase) +gather data.
* Analyze data about recycling improvements.
* Install at least 4 machines
* Use the sides of the machines as commercial space.
* Start partnership for the re-generation of those materials (sell the gathered material for re-generation).

**Solar panel**

* Analyze campus brighter spots, and brighter windows in all campuses.
* Use already existent partnership and create new (see career component) to find a co-investor/partnership for the installation and maintenance of the panels.

1. **Risks and Issues**

**Main risks tied to the program components:**

Program and projects:

* Late delivery of projects
* Late delivery of benefits
* Lack of knowledge
* Internal and external Regulation could represent a roadblock

Careers creation:

* No success or not enough success for the new career tracks
* No creation of knowledge spendable for the other program components
* Not enough classes for one or both majors to build up new career tracks.

Recycling program

* No response from the students/community in the reverse vending machines use
* Liability of the technology
* No response from the students/community in the recycling improvement project
* Percentage improvement of recycling is not enough to reach taxes reduction

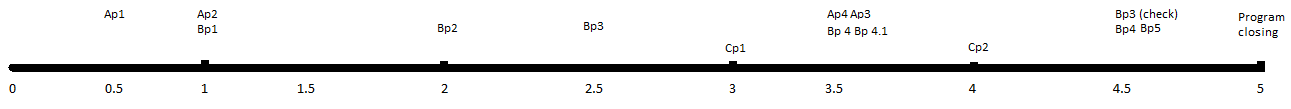
Solar Panels

* No co-investors found, enough funding.
* Not enough raised money from co-investors
* Experimental technology does not work as expected
* Weather unfavorable

1. **Timeline**

Capital letters indicate components (A, B, C)

Letter p and relative number indicates which project of the component

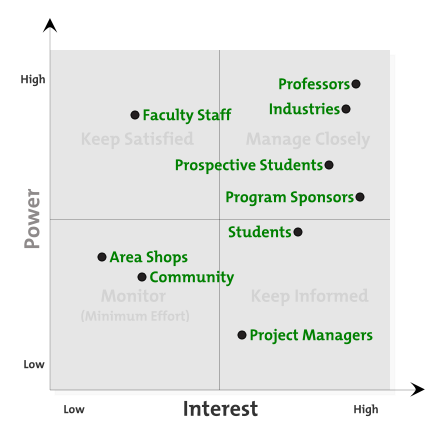
* Career track creation (A)
  + Ap1: creation of the career tracks
  + Ap2: internal advertising (milestone) + subscriptions
  + Ap3: gather and analyze data of the students
  + Ap4: Social media campaign for worldwide and external advertise (milestone)
* Recycle (B)
  + Bp1: Redid# login system for reverse vending machine implementation (external request)
  + Bp2: Install One machine (test phase, milestone) + Gather data on the use
  + Bp3: Analyze data
  + Bp4: Install a total of 4 machines (milestone)
  + Bp4.1: Rent the sides of the machines for commercial
  + Bp5: Start partnership with companies to sell the gathered material
* Solar panels (C):
  + Cp1: Analyze the brightest spots
  + Cp2: Use partnership to gather founds

1. **Resources Needed**

Each component is made by different projects. Each project will have, of course, a project manager. The expected budget requested for this program is 1.500.000$:

* Career track component $270000
  + Resources needed (skills and staff)
    - Data analysis (staff and skills)
    - Data gathering (staff and skills)
    - Knowledge management (staff and skills)
    - Social media marketing (staff and skills)
    - Faculty (staff)
    - Communication and advertising (staff and skills)
    - Organizational (skills)
* Recycling component $270000
  + Resources needed (skills and staff)
    - Data analysis (staff and skills)
    - Data gathering (staff and skills)
    - Advertising (staff and skills)
    - Negotiation (skills)
    - Recycling and re-generation of materials (staff and skills)
* Solar panels component $400000
  + Resources needed (skills and staff)
    - Negotiation (skills)
    - Environmental analysis (staff and skills)
    - Solar Panel Installation

1. **Stakeholder Considerations**



* Professors (internal): the quality of teaching is crucial to keep the students satisfied. They are definitely interested in the program for the opportunity of career and for the opportunity to start research and labs.
* Industries (external): they are supposed to hire students for internship or work. This represents the link between the program (therefore the organization) and the real world. To manage them closely is essential to start and improve already existent partnership.
* Prospective students (external): those represent the objective of the first component. Since environmental sustainability represents the big trend they will definitely be attracted by the new tracks.
* Program Sponsors (external): They are the eyes that look at the created value (economic and non), and based on this they will give more or less funds. To involve them in the program (reporting them the advancements, benefits) is crucial to keep them satisfied.
* Faculty staff (internal): to keep them satisfied is crucial to have a better faculty service. That will give to the prospective students a more professional picture of the organization. That will mean a better reputation with the community.
* Students (internal): students are the key of success for the first component, therefore a good treatment for this stakeholders represent the success of more than half of the program itself.

1. **Program Governance**

A Program Governance board is established to overview, manage and control the program projects and activities. Three members selected from the organization, high qualified and skilled for this role.

The Governance board is in charge of:

* Track benefits
* Indicate who is going out of boundaries
* Phase gate reviews: to check the strategic alignment of the components, check the opportunity and threats, benefit assessment. The cadence of those reviews will be at the end of each component of the program plus once a semester. The content of the phase gate reviews report will be concerned on the ended component and therefore will contain:
  + Measurement of the actual benefits with expected ones
  + Measurement of the actual level of risk (is still acceptable?)
* Initiation of the program
* Approval of the program plans
* Guidance on issues that program managers are unable to resolve

The structure of project proposal will be TOP-DOWN, which means the steering committee oversees propose project and entrust those to the competent task force. This choice is justified by the fact that in an academic environment each component relates to the other as an expert, also when it is not like that. That justifies the TOP-DOWN choice and will put in charge the Governance to take care of the relationship with the management.