

Investing in Targeted Programs for Workforce Growth

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Background

Overview:

Workforce Solutions is key in developing and sustaining a skilled workforce across the 13-county Gulf Coast Region.

Contributions: Aligns training with industry needs through local business partnerships.

Focuses on high-growth industries and offers career support services.

Collaborates with educational and community partners.

Offers \$6,000 scholarships annually for two years.

Supports high-skill training using ETPL-approved programs.

Regulations

Workforce Solutions Financial Aid:

Assistance: Covers tuition, books, fees, supplies, childcare, transportation, and work support.

Excludes loans.

FAFSA: Varies by applicant and school's financial aid office.





Scholarships are being allocated to programs that misalign with job market demands.

Many technical schools and family businesses pose risks:

• Limited instructors

• Poor reputation



Mission

Determine 10 career fields within industries.

Identify the top 10 growing industries.

Assess the most affordable programs within ETPL.

Ensure job security in a sustained industry demand and a livable wage of \$21.68/hr.



Selection Criteria

Challenges: Government data censorship.

ETPL restrictions.

Limited options in bachelor's degree programs.

Program Selection: State-endorsed colleges with rigorous accreditation.

Recognized educational standards.

Most affordable options for each program.



Methods & Approach

Step 1: Descriptive Statistical Analysis

Step 2: Trend Analysis

Step 3: Data Visualization

Step 4: Program Alignment







State Sector Trends



Professional, Scientific, and Technical Services Transportation and Warehousing Other Services (except Public Administration) Arts, Entertainment, and Recreation -Industry Government, Except Postal Services, State and Local Education & Hospitals Administrative and Support and Waste Management and Remediation Services Mining, Quarrying, and Oil and Gas Extraction -Real Estate and Rental and Leasing Agriculture, Forestry, Fishing and Hunting

State Occupation Trends



Financial Metrics

We have applied two key financial metrics to assess their potential benefits:

1. Net Present Value (NPV)

2. Internal Rate of Return (IRR)



Net Present Value (NPV)

We created an NPV best suited for our problem.

Model 1.2 captures more economic forces and give a more accurate depiction of (NPV).



Net Present Value (NPV) 1.2

$$NPV = \left(\sum_{t=t_e+1}^{T} \frac{S_2 \cdot (1+0.03 \cdot t) \cdot (1+f_2)}{(1+r)^t}\right) - \left(\sum_{t=1}^{T} \frac{S_1 \cdot (1+0.03 \cdot t) \cdot (1+f_1)}{(1+r)^t}\right) - \left(\sum_{t=1}^{t_e} \frac{CE}{(1+r)^t}\right)$$

 (S_1) is the annual salary of the individual before (r) is the estimated discount rate (3% or 0.03) education, or had they not sought education

(S_2) is the annual salary of the individual after education.	(<i>T</i>) is the time in years until the individual turns 45
(f_1) is the fringe benefit rate of the individual before education, or no education (0-10% or 0-0.1%)	(t_e) is the time in years the individual spent investing in education
(f_2) is the fringe benefit rate of the individual after education (20% or 0.20)	(CE) is the total cost of education, tuition, supplies, transportation, living costs, and personal expenses during the education period

NPV Findings



Health Care Sectors

Healthcare Program Growth & Salaries:

Associates in Physical Therapy Assistants - Wharton JC Growth: 26% National, 45% Texas (2020-2032) •Entry-Level Salary: \$50K-\$60K/yr

Associates in Diagnostic Medical Sonography - San Jac & Lone Star College-CyFair

Growth: 17% National, 38% Texas (2021-2031)

•Entry-Level Salary: \$65K/yr

B.S. Nursing (BSN) - Prairie View A&M
Growth: 17% National, 38% Texas (2020-2030)
Entry-Level Salary: \$65K/yr





2020 2050

Associates in Nursing - San Jacinto College •Healthcare Support Programs - Gulf Coast Region •Entry-Level Salary: \$55K/yr

Figure notes: Projected Population Size and Births, Deaths, and Migration: Main Projections Series for the United States, 2017-2060. U.S. Census Bureau, Population Division: Washington, D.C.

Computer & Mathematical Sectors

- Industry Growth & Education Insights: National Growth Rate: 13.7%
- State Growth Rate: 26.7%
- Computer Science, B.S. Texas A&M University-San Antonio
- Total Cost: \$150,296 (4 years)
- Entry Salary: \$69,000 \$80,000
- CNC Operator/Programmer Level I LSC-Montgomery
- Total Cost: \$6,660 (2 years)
- Entry Salary: \$44,000 \$50,000

Employment of computer and mathematical occupations, by state, May 2023



Blank areas indicate data not available.

Construction Sectors

Industry Insights:

National Growth Rate: 4.82%

Construction Step-Up Supervisor

Program – San Jacinto College

District

- •Total Cost: \$27,221 (2 years)
- •Entry-level salary: \$50,000/year





Construction sector jobs in the United States increased by 212,000 (2.7%) on a year-over-year basis. Texas added 21,100 jobs.

Management Sectors

Industry Insights:

National Growth Rate: 5.52%

Management, Bachelor of Business Administration - Texas A&M University-San Antonio

Total Cost: \$101,592 (4 years)

Entry Salary Range: \$46,340-\$65,180

Restau				raveler Iccommoda	10 A	musemer Recreatio	on	Motor vehicles & motor vehicle 0.615% Machinery	Pharmaceutical. 0.531% Electronic 0.521%	Printing & 0.396% Structural 0.356%	0.207%	Not			Truck transportation 1.53%	Warehousin & storage 0.927%	po po	ectric wer .619%	Elementary & secondary schools 0.988%	Other health care services 0.622%	Outpatient care centers 0.622%	0.481%	Internet put broadcastin search porta 1.150	g & web Ils	Civic, social, advocacy	
Food Services							manufacturing U.S2 0.614% Industrial Beverage 0.495 0.553% Aircraft&r		Electric 0.324%	0.199% Pulg8%				Services incidental to transportation 1.38%	Water, K steam, air	ir).575%	Bus	0.777% General medical and 0.761%	Other 0.39% Offices of	0.325% Offices of		0.611%	Motion	0.838% Other 0.374%	•	
				2.55%	inking).259%	2.4%		0.533 /0 Medical 0.543 % 0.465 % Miscellaneou 0.43 %		Machine, 0.254%					Couriers & messengers 1.15%	Sewage 0.353%			Grocery & related Pro	0.37% fessional 0.334% nber & 0.314%	Drugs		Wired 0.451%	0.422%	Car	
Car Dealers	12.6% Supermarkets and Other Grocery (except	Miscellaneous retail stores	Pharmacie 0.432%		Not			Compute Systems Design	'	Services to building & dwellings (excep 0.876% Waste managemen	t	546%	0.515%	Business support services 0.507%	Banking & related activities 1.3%			urance riers	Machinery, Mo equipment, &	0.314% tor yehicle 0.304% usehold			Executive offi legislative bo	dies s	0.197%	Ĭ
1.48% Clothing stores 0.97%	0.86% Electronic shopping and mail-order houses 0.834%	0.605% Furniture & home 0.603%	Health & 0.426% Automotive	0.26%	Beer			Z.23º Management, scientific & te	/o	remediation servic 0.782% Architectural 0.717%	es C Inv	Advertising 0.485% 0.4 Investigation & 0.483% 0th		%	Securities, commodities, funds trusts & other financial 1.28%	Real estate property			Construction			n	0.843% 0.4%			
Building material & supplies 0.947%	General merchandise stores, including 0.813%	Gasoline 0.544%	0.413% Sporting 0.369%	0.252	_			consulting services		Travel arrangement 0.602%	ts & Sci	entific).477%	0.268% Legal 0.267%	0	Lessors of real estate, and offices of real estate agents and 1.26%	0.481% Agencies 0.327%			4.87%				Support activities for mining 0.598%	Oil & gas. 0.41 Farming 0.41	16% 16%	

Production Sectors

- Industry Insights:
- National Growth Rate: 19%
- Industrial Maintenance Engineering Technician Houston CC
- State Growth Rate: 20%; Total Cost: \$7,000 (2 years) Entry Salary Range: \$45,082
- Diffi y balar y Range, φ (5,002
- Process Technology Degree (AAS) Alvin CC
- State Growth Rate: 13%; Total Cost: \$10,000 (2 years)
- Entry Salary Range: \$49,820



Recommendations

Advocate to the state for the inclusion of more universities/colleges and bachelor's degree programs.

Encourage funding from state entities such as the Texas Workforce Commission.

Use of economic models such as NPV and IRR to summarize the program.



Summary

Financial Metrics

Use NPV and IRR to evaluate financial viability and profitability of programs.

Educational Options Highlight various educational paths.

Industry Growth Alignment

Ensure program selection aligns with growing industries.

Selection Challenges

Limited data access and a small ETPL list.

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