

Full Length Research Paper

Creating a psychological paradigm shift in students' choice for tertiary education in Sri Lanka: The influence of socioeconomic factors

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This paper investigates the potential influence of socioeconomic factors in the students' choice for tertiary education. The approach of this study combines an opinion survey, desk research and a case study. Shifting of a psychological paradigm is easier said than done. It may need social awareness about the existing problems, gaps, significance and negative/positive impact of different scenarios, and availability of potential solution. The data analysis and discussions have been done under identified key socioeconomic factors relevant to education. Parental levels of education, income, and financial status have been given priority in the discussion. Parents' involvements in education and material support have been recognized as influential factors in students' choice in university education. The language of instruction and peer group in school environment was considered finally. However, none of these factors are within the control of a person or an institute. The objective of the study is to explore factors required to establish favourable socioeconomic conditions providing students with right direction while implementing necessary policy changes to create suitable pathways in the tertiary education. The paper recommends vertical integration of teaching majors from school, to the university, to the industry which would provide many benefits.

Key words: Psychological paradigm, students' choice, tertiary education, socioeconomic factors.

INTRODUCTION

The Sustainable Development Goals are a blueprint for a better, more sustainable future for everyone. Every one of the seventeen Sustainable Development Goals (SDGs) adopted by the United Nations as a universal requirement to take action to eradicate poverty, safeguard the environment, and ensure that by 2030 all people live in peace and that prosperity is dependent on education. It

is a transformative force that improves people's health and livelihoods, contributes to social stability, and propels long-term economic progress (GPE, 2021). A paradigm shift is a significant shift in how something works or is completed in terms of conceptions and practices. A paradigm shift can occur in a variety of situations (www.investopedia.com, 2019). It is a systematic way of

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thought patterns (Heino, 2017). Through a paradigm shift, people may be able to distinguish between essential and non-essential information to act in accordance with the challenges. Tertiary education is derived from the terms “higher education”, or “post-secondary education” where it refers to “a level of education which is beyond the secondary education, undertaken in tertiary education institutions but in a wide variety of other settings, including secondary schools, at work, via free-standing, information technology-based offering and a host of private and public entities” (Whitman, 2003, p. 191). Some research indicates that influences of existing students, alumni and staff of the education institutes are playing a vital role in selection process of degree college/university. Employment prospects and earning potential (after graduation) is a key factor in program choice. That means, college graduates who obtained better jobs, thus satisfied with their education, act as key influencers in program and university choice. However, high paying jobs generally demands equally higher educational and professional qualifications, skills, and most importantly the competencies in the respective field. Apart from the fringe benefits, some candidates seek for job security and convenience such as flexible working hours, or sustainable retirement benefits such as lifetime pension schemes.

Parental education, household income, financial, non-financial benefits and material assistance, language, parental involvement in child education, and peer group in the school setting are all socio-economic aspects that affect education. The American Psychological Association defines socioeconomic status as an individual's or group's social standing, or class as determined by a mix of education, income, and occupation (APA, 2021). The choice of selecting a suitable academic discipline in the university is not only crucial to the candidate but to the society as well. If the decision is made without a proper evaluation of industry demands, economic and technological trends and other global transformations the hard-earned qualification will not pay dividends. This fact is even applicable to candidates who wish to become entrepreneurs after the graduation. The graduate qualification should be in demand to make its due contribution to the society. This is a serious problem for countries like Sri Lanka as government universities offer the education free of charge. In other words, it is funded by either the tax money of other citizens or through international loans secured at high interests. Either way, the country does not get maximum productivity spending on tax money or borrowing loans at higher interests' rates. Aside from that, the industry sector suffers due to lack of qualified people to employ. The shortage of indispensable human capacity leads investors to hire expatriate workers at substantial cost resulting loss of foreign exchange. As a result, the manufacturers or the service providers become uncompetitive in the global market. Therefore, this problem has a chain effect that

has negative impact on individual and society. The industrial inclusiveness in university curriculum is indispensable (Edirisinghe et al., 2021).

The research was done in Sri Lanka. The economic model of the country experienced substantial changes during the last four decades and the researchers have been exposed to the education sector during this period. It is of their opinion that the improvements that were crucial in the country's higher education sector has not gained fully to support the country's development agenda. It is noted that the existing supply of graduates are not commensurate with the industry demand. This has created an imbalance between the human resources required to facilitate the industry demand and the qualifications secured by the undergraduates. This gap is seen expanding constantly as the industrial sector keep on adding technology to their operations. Unlike in the past, now employers look for candidates who comes with a sound academic background in specific area of the job. For example, a manufacturing company may seek a graduate in supply chain management to handle their logistics. This fact is evident from the transformation of designations of certain job categories. Few years ago, manufacturing firms hired storekeepers with qualifications in common business administration while today similar tasks are done by people quailed in specific academic subjects. These new designations include Logistics Engineer, Analyst, Consultant, Purchasing Manager, International Logistics Manager, Inventory Manager or Supply-Chain Manager. As the name reflects such responsibility cannot be performed by a person with a common degree in business administration or a Bachelor of Arts. Within and outside the school, college, or university, variables that contribute to effective and quality academic performance can be found. It is evident from the literature and constant dialogues with stakeholders in the industry that the socioeconomic factors may affect the program choice (that is, demand for specific academic disciplines) of undergraduate students. Therefore, to make a shift from the current psychological paradigm to another, these socioeconomic components should be identified and appraised. Accordingly, this paper attempts to investigate the relevance and the impact of socioeconomic factors selecting the area of higher education or the students' program choice.

Significance of the study

A Psychological paradigm shift results in multicultural perspective (Pedersen, 2001). Understanding rather than measuring, predicting consequences rather than causation, social significance rather than statistical significance, subjectively derived rather than objectively are the qualities which were derived in a psychological paradigm shift. The term psychological paradigm shift is

derived through term physical science, but it has a difference when it comes to the applicability to the depth psychology. Those who enter government universities after a very competitive selection process in Sri Lanka are compelled to be unemployed mainly due to mismatch of employers' perspectives in the modern world against the skills and competence they developed in the tertiary education. It is therefore timely, if not already late, to develop a mechanism that leads to a psychological paradigm shift in students' demand and enrolment for various academic disciplines in the tertiary education in Sri Lanka. The immediate puzzle that comes to mind then is whether the universities in Sri Lanka conduct degree programs cater to the employers' perspectives in the modern world. It is reported that more than 12,000 Sri Lankan students go overseas annually for higher education opportunities; as the authorities failed to cater to the demand within the country causing a drain on foreign exchange of \$ 50 million per annum (Edirisinghe, 2020). Even if the students get a degree awarded by a foreign university while studying in Sri Lanka, the foreign exchange is drained through royalty fee and other affiliation charges (Edirisinghe et al., 2018). In fact, there are many criticisms that the leanings of degree programs conducted in government universities do not result in creating a graduate that the commercial world demands in the present context. However, on the other hand, the contribution from the non-state higher education is emerging. Therefore, these institutions will react to the demand immediately and cater to the shifted paradigm. Therefore, this research will primarily question the factors that lead to a psychological paradigm shift in students' demand and enrolment for various academic disciplines in the tertiary education in Sri Lanka.

While socio-economic factors can be a major contributor, other variable such as learner factors and institutional factors also to be examined to make a comprehensive conclusion. However, this study will focus only on the impact of socio-economic factors of students' choice making on academic programs in the university education. Apart from the choice of selecting a degree program from existing list of academic disciplines, the non-availability of wide range of programs is the major barrier faced by students in some countries. For example, two decades ago there were very few degree programs were available in Sri Lanka. There were no private universities allowed to offer degrees and the government universities keep on adding graduates in common academic disciplines without evaluating the industry demand. This has created a huge unemployment and underemployment problem in the country. This scenario has been changing gradually with private sector awarding degrees accredited by foreign universities. However, the fact remains that students and parents still demand the common degrees that are familiar to them by name.

Therefore, creating a psychological paradigm shift in students' (and parents') choice for tertiary education in

the current context is an effective and efficient mechanism to attain the sustainable development goals.

MATERIALS AND METHODS

The research approach of this paper is tri faceted combining opinion survey, desk research. A case study about the tertiary education and selected state universities in Sri Lanka based on secondary data was also conducted. The paper aims to study the influence of socioeconomic factors that could create a shift in the students' choice of psychological paradigm in tertiary education a vast population to be covered. For example, the target population of this study may consist some top official in leading ministries including Ministry of education, vice chancellors, deans of various faculties in private and government universities, school principals, teachers, and students top officers of industry associations, officers of carrier development unit of higher education institutes, representatives from a university alumnus, current students in state and private universities, lecturers in state and private universities, cross section including HR managers of firms covering both private and public sectors, managers of Technical colleges, managers of companies that provide internships to students and parents of university students (state and Private universities).

The conceptual model stated that personal values, motivation, selection criteria, and demographic and socioeconomic factors all influence student university choice. Students generally select the academic discipline based on their own knowledge and parents, siblings, teachers, peers, and the culture in in the school they attend may influence that decision. The degree choice will then come within the selected academic discipline. Then they select the respective universities that offer the degree. Final decision will take place after lengthy appraisal of available information about the potential universities. However, in Sri Lanka this flow may differ to some extent regarding those who qualify for the state universities. The University higher education in Sri Lanka comes under the purview of the University Grants Commission (UGC). The structure of the Higher Educational Institutions established under the Universities Act is presented under three categories namely: Universities, Institutes, and Campuses. There are other government universities/institutes which are established by Acts of Parliament of Sri Lanka, degrees of Institutes Recognized under Section 25 A of the Universities Act No. 16 of 1978. Private sector education at tertiary level became very popular during last two decades. They mainly offer degrees approved by University Grants Commission, Ministry of Higher Education, and Ministry of education. In addition to this UGC recognizes degrees conducted by various institutes and offered by Foreign Universities.

International Advanced Level Examinations conducted by the Cambridge International Examinations and Pearson/Edexcel International examination boards amount to approximately 12000 students per year with no access to state universities. The University Grants Commission (UGC) is the competent authority for funding most of the government Universities in Sri Lanka and functions within the context of the Universities Act No. 16 of 1978. It is a public organisation, established under the Parliament Act No 16 of 1978. University Admission in Table 1 shows the selection of students by the UGC for registration to undergraduate courses of the Universities and Higher Educational Institutes (HEIs) established under the Universities Act.

Opinion survey

Initially, convenient sample of forty-six opinion leaders representing all stakeholders of the education sector have been identified. The

Table 1. The demography of respondents of the survey.

Category	Number
Secretaries to leading ministries in Sri Lanka	3
Vice chancellors	3
Deans of various faculties in private and government universities,	7
School principal	1
Senior teachers (government and private schools)	2
Presidents of industry associations	5
Officers of carrier development unit of higher education institutes	2
Representatives from a university alumnus	2
Current university students Government and Private	2
Senior lecturers (government and private universities)	6
Chairmen of companies	2
CEO of companies	1
General Managers of companies	1
HR managers of leading firms covering both private, and public sectors	2
Managers of Technical colleges	1
Managers of companies that provide Internships to students	3
Parents of university students (government and private universities)	4
Total	47

demography is self-explanatory to their relevance to subject rear investigated. For example, senior lecturers responses covered both government and Private universities. The degree selection choices under these two sections are substantially different. Company managers and CEOs selection preferences may be drifted that the opinions of both parties need to be considered (Table 1). A qualitative analysis was administered to the response of structured sections of questionnaires. Non structured sections were compiled based on most relevant areas for the study. A comprehensive literature survey was done simultaneously, and semi structured questionnaire was designed based on the previous research.

Secondary data and case study

Secondary data will be collected through domestic and international publications. Contemporary reports and analysis of international institutions such as International Bank for Reconstruction and Development (IBRD); The World Bank; United National Industrial Development Organization (UNIDO); World Economic Forum (WEF); United Nations Educational, Scientific and Cultural Organization (UNESCO) were studied extensively to compare various trend and opinions. Reports of Department of Census and Statistics, University Grants Commission, Central Bank of Sri Lanka, Ministry of Education, and Department of Examinations have been referred to evaluate comments received in the interview process. A case study was done to better understand whether the data collected through global analysis is commensurate with the reality in the context of Sri Lanka and to ascertain how far it can be helpful in the way forward.

Conceptualising the problem

Generally, household income level, parents' level of education, occupation, marital status, race, and gender may be considered as socioeconomic factors. They are often measured by the status of

the household or by area-based indicators of deprivation. Examinations of socioeconomic status often reveal inequities regarding access to resources, plus issues related to privilege, power, and control (APA, 2021). Generally, the education in any country is influenced by the factors of socioeconomic and geopolitical factors. Therefore, it is vital to understand the relevance of these components to create a psychological paradigm shift in students' demand and choice for tertiary education. Human development is about giving people more freedom and opportunities to live lives they value (UNDP, 2021). Therefore, developing people's abilities and giving them a chance to use them is the fundamental outcome of education. The enhancement of human to increase their capabilities and expand their capacity by providing the rightful education leads to development of a better society. Education enhances the humans' ability to think and make better decisions helps develop good social environment in a country. People grasp their education through the technology and science and the outcome of knowledge reflects physically, cognitively, and behaviourally that helps make a more refined and developing society.

This research compliments the objectives of current project operative under the Accelerating Higher Education Expansion and Development (AHEAD) of the World Bank. Figure 1 depicts the methodology of the conceptual model in the original research paper. The original model illustrated how the socioeconomic factors flowing downwards to selection criteria and then constrained by the availability of academic programs in the university system. This study considers the impact of selection criteria (program choice) by the socioeconomic factors within available academic disciplines.

However, the program may be influenced through the ranking given by the education authorities (Z score) in case of free or concessionary fees offered by governments. In Sri Lanka, the University Grants Commission allocates the degree program/institute for the University entrance each year based on the Z score ranking the candidate obtained. This portion constitutes approximately 17% for the students who get minimum qualifications to enter to the university namely, three ordinary passes at the G.C.E. (Advanced Level) Examination. Other than that,

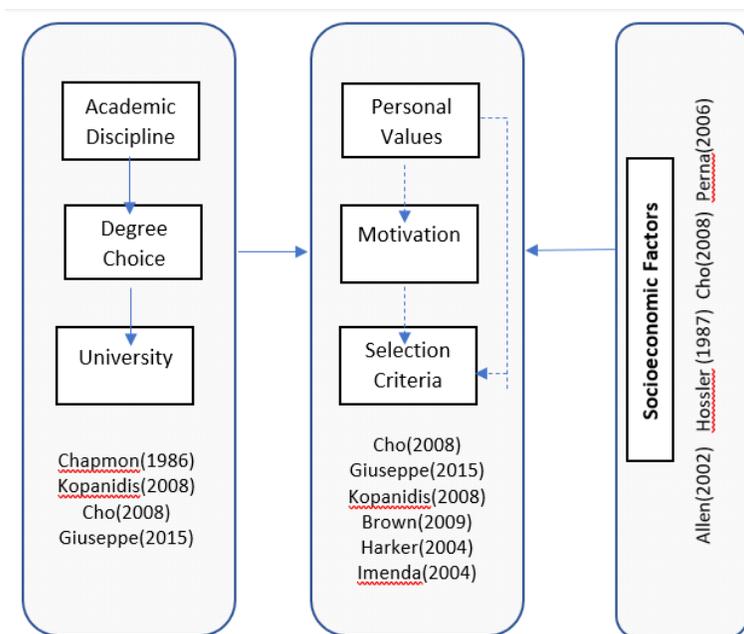


Figure 1. Conceptual framework.

Table 2. General social indicators - Sri Lanka.

Indicator	2015	2016	2017	2018	2019(a)
Population '000 (Mid-Year)	20,970(b)	21,203(a)	21,444(a)	21,670(a)	21,803
Annual population growth (%)	0.9	1.1(a)	1.1(a)	1.1(a)	0.6
Density of population (persons per sq. km)	334	338(a)	342(a)	346(a)	348
Labour force participation rate (% of household population)(c)	53.8	53.8	54.1	51.8	52.3
Unemployment rate (% of labour force)(c)	4.7	4.4	4.2	4.4	4.8

(a) Provisional (b) Revised.
Source: CBSL (2021).

institutional reputation, ranking of the institution, price of the program, passport to employment, and career prospects have been found most important to university and program/course choice for paid programs. Once these fundamentals are in line, the students may focus on detailed evaluation such as class and curriculum structure, quality of teaching faculty, teaching methods, learning environment, assessment criteria, campus location, and so on. Safety/security concerns are another concern for female candidates due to cultural influences in certain countries. Even if required academic discipline is available in the country it may not be accessible to a candidate if the program is not conducted by the institute they chose. Similarly, factors such as friends attending the same institution or family influence could be the decisive factor in program selection.

RESULTS

Since the study hypothesised that Socio-economic factors influence the students' choice for tertiary education, key trends in the socio-economic factors

namely, parental level of education, parental income, financial and material support by parent, language, parental involvement in child education and peer group in school environment were examined. The quantitative data were found in certain factors while other qualitative data were collected through interviews. To understand the background of the scenario, Tables 2 to 5 provide a snapshot of the country's socioeconomic status at present. Sri Lanka is a country with a lower-middle-income status, with a GDP per capita of USD 3,852 in 2019. Sri Lanka's transformation to a more competitive, inclusive, and resilient country is supported by the World Bank Group. It has a population of 21.8 million people, and the government has continued to execute numerous projects and programs to improve the socioeconomic well-being of low-income and vulnerable people and families.

Parental level of education is a key contributory factor in students' choice for tertiary education. It is estimated

Table 3. Gender wise labour force participation rate.

Variable	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	74	74.9	74.9	74.6	74.7	75.1	74.5	73	73	71.9
Female	34.3	32.9	35.4	34.6	35.9	35.9	36.6	33.6	34.5	32

Source: CBSL (2021).

Table 4. Gender wise labour force unemployment rate.

Variable	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	2.7	2.8	3.2	3.1	3	2.9	2.9	3	3.3	4
Female	7.1	6.3	6.6	6.5	7.6	7	6.5	7.1	7.4	8.5

Source: CBSL (2021).

Table 5. Labour Force and Employment-Overall and Foreign Employment.

Variable	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Labour statistics-employed population (x1000)	7,592	7,489	7,681	7,700	7,831	7,948	8,208	8,015	8,181	7,999
Foreign employment-departures for foreign employment	262,961	282,447	293,218	300,703	263,443	242,816	211,992	211,459	203,186	53,713

Source: CBSL (2021).

Table 6. Number of students accessed general education 1970 – 2019.

Variable	1970	1980	1989	1990	1995	2000	2005	2010	2015	2019
Government school - students	2716187	3389776	4179520	4111272	4216571	4193908	3942077	3940072	4129534	4149661
Private school - students			83816	82593	87674	95383	106262	117362	136228	139070

Source: CBSL (2021).

Table 7. Number of students accessed university education – 1970-2000.

Variable	1970	1975	1980	1985	1990	1995	2000
Students graduated	3,735	3,146	3,252	4,481	4,522	5,342	9,374

Source: CBSL (2021).

that current students age group in the universities is between 19 to 23 years. With a secondary education, 420 million people would be lifted out of poverty. A child whose mother can read has a 50% higher chance of living past the age of five. An extra year of schooling can boost a woman's earnings by up to 20% (GPE, 2021). Therefore, in a reverse calculation it may be realistic to assume their parents would have processed their education pathways between 1965- 1995 period. Accordingly, access to general education to their parents

could be assumed under government school system and private schools based on data given in Table 6. Private school education commenced in Sri Lanka in 1989. Table 7 illustrates the trend of students accessed university education between 1970 and 2000.

With due consideration to the contemporary skill needed in the economy, the Technical and Vocational Education and Training (TVET) sector continued its activities to improve the skills base of the labour force. By the end of 2020, there were 1,239 registered institutions

Table 8. University education in numbers, age specific ratio, and admission vs eligibility.

Variable	1970	1980	1990	2000	2010	2015	2016	2017	2018	2019
Students	11,813	17,308	29,471	48,296	70,477	83,778	84,451	88,855	93,787	95,920
Students graduated	3,735	3,252	4,522	9,374	13,042	29,545	28,808	n.a.	26,024	n.a.
Age specific enrolment ratio (age 19-23 yrs)						6.6	6.8	6.8	7.5	7.5
University education - Admission as a percentage of eligible						17.1	18.6	19.11	19.1	19.1

Source: CBSL (2021).

Table 9. General education.

Item name	2014	2015	2016	2017	2018	2019
Age specific enrolment ratio	99.2	98.4	97.4	96.3	92.8	95.4

Source: CBSL (2021).

Table 10. Key economic indicators – Sri Lanka 2014-2020.

Indicator	2014	2015	2016	2017	2018	2019	2020 (a)
GDP at current market price (Rs. billion)	10,361	10,951	11,996	13,328	14,291 (h)	15,013 (a)(h)	14,973
GNI at current market price (Rs. billion)	10,125	10,676	11,676	12,975	13,901 (h)	14,581 (a)(h)	14,568
Per capita GDP at current market price (US\$) (i)	3,819	3,841	3,886	4,077	4,057 (h)	3,852 (a)(h)	3,682
Per capita GNI at current market price (US\$) (i)	3,732	3,745	3,782	3,969	3,947 (h)	3,741 (a)(h)	3,582

in the TVET sector conducting over 3,400 accredited courses (CBSL, 2021). Table 8 explains very crucial information about university education in Sri Lanka during the period in concern. It provides number of students, their age specific ratio, and admission versus eligibility. Age specific ratio indicates the percentage of graduate students out of the population between ages 19 to 23 years. It also provides the count of the students who admitted to universities from the total candidates who fulfilled minimum qualification to enter to university education in Sri Lanka. The current scenario of general education in Sri Lanka is explained in Table 9.

It is also reiterated that parental income and financial and material support by parent are key factors under the socioeconomic condition. Sri Lanka maintains a mixed economy since 1977 and it has met the Millennium Development Goal (MDG) target of halving extreme poverty and is on track to meet most of the other MDGs. Sri Lanka's poverty head count index was 4.1% by 2016 and strives to transition to an upper middle-income country (Table 10). Sri Lanka is in efforts to have the social inclusion, governance, and sustainability. Education plays a key role in improving the terms on which individuals and groups take part in society. It helps to improve the ability, opportunity, and dignity of those disadvantaged, thus widening the scope of education at tertiary level may lead to effective social inclusion. The Department of Samurdhi Development (DSD) offers a financial buffer and implements several livelihood,

entrepreneurship, and social development programmes to help beneficiaries improve their overall socio-economic well-being (Table 11). Table 12 illustrates the present flow and trend of students advancing/filtering to tertiary level education. However, this consists only of the government sector statistics. Rest of the candidates that is, approximately 140,000 candidates or 77% do not get the opportunity to enter to Government University due to lack of infrastructure and resources. Performance of Candidates in G.C.E (A.L.) Examinations is given in Figure 2.

To understand the gaps, it may be vital to review the prominence given to tertiary education at the policy level. Sri Lanka needs to urgently increase higher education enrolment with a special focus on degree programs, such as STEM programs, that are important to drive future economic growth through higher value-added industries and services (AHEAD, 2018). Table 13 shows the economic and finance view reflected through the government expenditure on tertiary education. The table provides the insight of successive governments' focus on this scenario as a percentage of total government expenditure and as a share of total education expenses. Table 14 illustrates total graduate output in Sri Lanka since 1990. This information has a fundamental importance to analyses the gaps in existing system. Table 15 reveals the growth of state university system that provides the foundation for the status of tertiary education in Sri Lanka. The gaps that need attention in

Table 11. Main Welfare Programmes - Number of Beneficiary Families and Value of Grants.

Year	Divineguma / samurdhi subsidy programme		Nutrition allowance programme		Dry ration programme
	Families (No.) (a)	Value (Rs. million) (b)	Beneficiaries (No.) (a)	Value (Rs. million) (c)	Value (Rs. million)
2016	1,407,235	40,740	337,554	5,746	111
2017	1,388,242	39,707	372,407	5,408	84
2018	1,384,021	39,239	329,047	5,490	58
2019	1,800,182	44,660	300,246	5,279	105
2020	1,770,086	52,472	238,034	4,761	n.a.

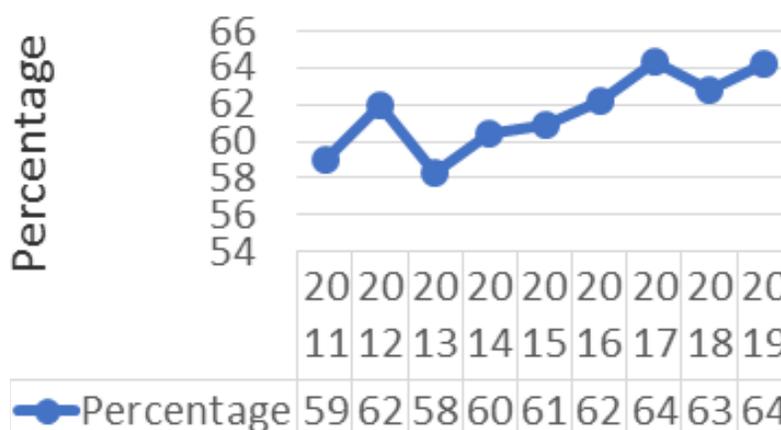
(a) As at year end; (b) Including the kerosene subsidy; (c) Data for 2020 are based on State Ministry of Women and Child Development, Pre-Schools and Primary Education, School Infrastructure and Education Services but data for 2016 to 2019 period are based on Ministry of Finance.

Sources: Department of Samurdhi Development; State Ministry of Women and Child Development, Pre-Schools and Primary Education, School Infrastructure and Education Services; Ministry of Finance (CBSL, 2021).

Table 12. The trend of students advancing to tertiary level.

Variable	2016	2017	2018*	2019*
All Candidates Applied for the GCE(A/L)	310,613	315,326	317,651	333,635
All Candidates Sat for the GCE(A/L)	258,193	253,330	267,111	281,786
No. students Qualified	160,517	163,160	167,992	181,206

Source: SGOV (2021), UGC (2021) *=Provisional.

**Figure 2.** Percentage of qualifying from the G.C.E. (Advanced Level) examination to enter University (CBSL, 2021).**Table 13.** University Education Expenditure.

Year	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019*	2020*
As a % of government expenditure	1.16	1.45	1.59	1.80	1.21	1.77	2.10	2.02	2.20	2.49	2.08
As a % of education expenditure	10.94	13.91	15.78	17.25	13.24	17.72	20.91	20.25	21.90	23.79	23.56

Provisional (UGC, 2021).

projecting way forward should be identified through these trends.

Figure 4 displays the distribution of existing workforce

under three key employment categories in Sri Lanka namely, agriculture, industry, and services. It provides the shifting of employment categories between agriculture

Table 14. Graduate output in numbers.

Year	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019*	2020*
First degree	4,476	4,206	9,374	12,545	21,248	31,679	31,460	27,212	29,094	25,757	24,565
Postgraduate	307	1,048	2,169	4,589	6,330	7,513	7,574	10,121	10,959	9,991	7,501

Source: CBSL (2021).

Table 15. Institutional development (university education).

Year	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019*	2020*
No. of Universities	9	9	13	15	15	15	15	15	15	15	15
No. of Faculties	32	36	55	77	79	87	93	101	103	107	109
No. of Departments	229	275	337	411	462	510	556	597	623	641	675
No. of Institutes	8	9	11	16	17	18	18	19	19	20	20
No. of Employees(5)	7,687	8,541	11,486	13,269	15,670	18,380	19,307	20,450	21,792	22,832	22,586
No. of Teachers(6)	2,040	2,808	3,241	3,770	4,984	5,897	6,286	6,575	6,841	7,418	7,258

Source: CBSL (2021).

Table 16. Graduate unemployment in 12 departments.

S/N	Department	Total graduated 2017	Unemployed	Unemployed percentage
1.	Agribusiness Management	25	13	52
2.	Business Management	202	97	48
3.	Horticulture and Landscape Gardening	36	16	44
4.	Plantation Management	36	15	42
5.	Applied Nutrition	22	8	36
6.	Banking and Finance	42	13	31
7.	Accountancy	162	47	29
8.	Biotechnology	16	4	25
9.	Aquaculture and Fisheries	17	4	24
10.	Insurance and Valuation	10	2	20
11.	Livestock and Avian Sciences	19	3	16
12.	Food Science and Technology	31	4	13
	Total	618	226	37

and industry and the consistent higher share of service category, thus showing employment trends during 2011 to 2020.

The private sector continued to engage in the provision of tertiary education alongside the Government. As at the end of 2020, there were 21 Non-State Higher Education Institutes (NSHEIs) recognised as degree awarding institutes offering 164 accredited degree programmes (CBSL, 2021).

Case study

This case study is primarily done based on data provided in the Employability Survey Report - Wayamba University

of Sri Lanka. To understand the mismatch in the availability of graduates and the demand for respective disciplines could be compared as one criterion. Graduate employability of universities has gained recognition as a direct measure of success in addressing the needs of employers (Wickramasingh and Wijenayake, 2017). The unemployment and underemployment are both highly detrimental to a country's economic growth (Table 16). When the education system does not provide the right knowledge, skills, and competency (KSC) and consistently upgrade the system in the right direction to align with the global trends the underemployment will be unavoidable. Because the work force will be developing their KSC in one direction and the employer demand will be not commensurate with the global trends. The

Table 17. Gradate employment relevance level of 12 departments.

S/N	Variable	10%	25%	50%	75%	100%
1.	Agribusiness Management	1	1	3	2	5
2.	Biotechnology	1	0	2	5	4
3.	Horticulture and Landscape Gardening	0	2	3	8	7
4.	Plantation Management	1	1	2	7	10
5.	Accountancy	5	7	13	37	51
6.	Banking and Finance	0	3	5	10	9
7.	Business Management	4	9	23	42	12
8.	Insurance and Valuation	0	0	1	2	5
9.	Aquaculture and Fisheries	0	0	3	4	4
10.	Applied nutrition	1	0	1	1	10
11.	Food Science and Technology	0	0	2	8	14
12.	Livestock and Avian Sciences	0	0	4	8	4
	Total respondents	13	23	62	134	135
	Percentage share	4	6	17	37	37

Table 18. Employability status of applied sciences graduates.

Degree	Total graduated 2017	Unemployed	Unemployed percentage
B.Sc. (General)	29	9	31
B.Sc. (Joint Major)	52	12	23
B.Sc. (Special) in Applied Electronics	5	1	20
B.Sc. (Special) in Mathematics with Statistics	5	0	0
B.Sc.(Special) in Industrial Management	6	0	0
Total	97	22	23

candidates will be compelled to what is available in the job market and they will be under employed. As a result, proper employability is an important measure of a country's economic development. The employability of the graduate population is particularly significant in Sri Lanka, because free education is provided to only a small number of individuals who are qualified to enter government universities. The base material for this desk research is the Wayamba University of Sri Lanka's (WUSL) sixth employability report. The information received from the graduates at their convocation was used to create this report. This study provides information on the employability of graduates five to seven months following their final examination in their specialist degree programs.

Further analysis of this report reveals that, even those who are employed are not performing their duties in the relevant field. Table 17 indicates the percentage of students in relation to different levels of relevancy of the job to the study programme. It shows employers' recognition of the knowledge and training provided by the degree programme as relevant to the needs of the industry. Accordingly, among the respondents, 27% of the students graduated in different degree programmes had 50% or lower relevancy to the job. Only Faculty of

Applied Sciences (FAS), among all graduates of FAS, reported higher employment, that is, 77% at the time of the survey. The respective degree programs are illustrated in Table 18. Among the four faculties of WUSL, students graduated from the Faculty of Applied Sciences have obtained comparatively high level of salaries (Wickramasingh and Wijenayake, 2017).

However, 38% of these graduates are ultimately end up employing in the field that are not relevant (50% or less relevant) to the programs they followed in the university. In other words, there is a mismatch in the areas of teaching in the tertiary education and the real demand in the job market (Table 19). The report highlights a gradual increase of salaries from 2010 to 2017. Among all graduates 57% have obtained more than Rs. 30000.00 as their salary in 2017 (Wickramasingh and Wijenayake, 2017). Employability of graduates can be expressed under three categories namely, permanent, temporary, and self-employment (entrepreneurs). This study shows a progressive decrease in permanent positions between 2013 and 2015, with a loss of 12% compared to 2013. Between 2012 and 2017, there was a 15% decrease in the number of temporary positions, compared to the highest employability recorded in history in 2013. During the study period, the rate of self-employment was

Table 19. Relevancy of the job to the study programme.

Degree	Relevancy of the job to the study programme				
	10%	25%	50%	75%	100%
BSc (General)	0	2	9	6	0
BSc.(Joint Major)	0	4	5	13	15
BSc (Special) in Applied Electronics	1	1	1	0	1
BSc (Special) in Mathematics with Statistics	2	0	0	0	2
BSc (Special) in Industrial Management	0	0	1	2	3
Total respondents	3	7	16	21	21
Percentage share	4	10	24	31	31

observed to be low. Between 2014 and 2017, there was a gradual increase in the number of unemployed graduates, which reached 38% in 2017.

DISCUSSION

Psychological paradigm shift

Psychology is the study of mind and behaviour. Behaviourism and constructivism are two of the most influential theoretical frameworks in education. In education, behaviourist approaches emphasise changing behaviour through rewarding correct performance (Diffen, 2021). Cognitivism is also a learning theory about how people perceive and remember information, apply, and learn. Constructivism focuses on the idea that students create knowledge through learning experiences. Connectivism is positioned as a new philosophy of education for the digital age and gives more emphasis on the impact of technology and networks. A scientific revolution occurs when: the new paradigm better explains the observations and offers a model that is closer to the objective, external reality; and the new paradigm is incommensurate with the old (McLeod, 2021). A paradigm focuses on one way looking to a situation and it provides the basis for the way of thinking and acting accordingly. When one paradigm hypothesis is superseded by another, a paradigm shift occurs. A paradigm theory is a large theory that provides a broad theoretical framework for scientists working in an area. During a paradigm shift, the theoretical opinions of scientists working in the field alter. However, when used outside of philosophy, it usually refers to a dramatic shift in theory or practice. As a result, this research focuses on an emerging scientific framework that includes biological impacts, societal pressures, and environmental elements that influence students' decision to pursue higher education in a certain academic subject.

Students' choice for tertiary education

Considering the above background of tertiary education

in Sri Lanka, the higher unemployment rate of graduate is not only a problem for them. Firstly, it is a problem to other candidates who fulfil minimum entry qualifications to enter to universities but were deprived access due to lack of resources in the state universities. Secondly, it is a problem to those who pay taxes to provide free education in universities. Thirdly, it is a problem to their parents and other family members who contributed to a major part of students' lives making them graduates. Overall, it is a socioeconomic problem. Therefore, creating a psychological paradigm shift in students' choice making for tertiary education is much needed to minimise various negative impact on economy and to the social wellbeing. Consequently, those who have the money go overseas using country's valuable foreign exchange and many do not return to Sri Lanka after qualifying which is another big loss to the country as well as to the parents. Many Sri Lankan youth reportedly view migration or international schooling as an opportunity to enhance their employment prospects, and Sri Lanka's tertiary-level student population is quite mobile – in part because higher education in Sri Lanka has insufficient capacity to address student demand, especially at the undergraduate level (D'Souza and Moore, 2017). With due consideration to the issue of employability of graduates, approval was granted by the Cabinet of Ministers of Sri Lanka to consider STEM+A subjects, that is, Science, Technology, Engineering and Mathematics through Art (CBSL, 2021). Tables 13 and 15 explain the university education expenditure and institutional development that ensure governments commitment towards university education.

Psychological shifting of the selection paradigms in education pathways

It is always encouraging if state universities introduce degree programs on emerging fields so that non state universities can follow suit. However, it is rarely seen such initiative. The reality of students' choice for higher education was evidenced in the recent interest free loan scheme (IFLS) introduced by the Ministry of Higher

Education. There was a higher demand for the common programs conducted by the state universities. It is however sad that the job opportunities for those common degree programs are low even in the current situation. Therefore, more students following similar programs could lead to a serious problem shortly and some remedy should be required as early as possible. Sri Lanka needs to urgently increase higher education enrolment with a special focus on degree programs, such as STEM programs, that are important to drive future economic growth through higher value-added industries and services (AHEAD, 2018). The tertiary education in Sri Lanka is faced with two fundamental challenges. On one hand out of those passing the G.C.E. Advanced Level Examination only 17% enter universities while 83% are left behind. Nearly 150,000 students annually lose the opportunity to proceed to higher education due to the closed national higher education. This means, during the last 40 years we have sacrificed a minimum of two to four million of youths in Sri Lanka without any sustainable solution. On the other hand, there is a higher unemployment rate of graduates in the country even after this competitive selection process. While those who are deprived of an opportunity to pursue their higher education despite them qualifying, their future is unwelcoming for no fault of theirs.

The highest unemployment rate (9.1%) is reported from the G.C.E. (A/L) and above group in Sri Lanka. It is 5.1 and 13.2% for male and female respectively (Department of Census and Statistics, 2018). As of 2017, total number of unemployed graduates in Sri Lanka was 34,316. Among the unemployed graduates, about 54% are Art degree holders, while the other 46% consist of other degree holders (Department of Census and Statistics, 2017). Consequently, those who have the money go overseas using country's valuable foreign exchange and many do not return to Sri Lanka after qualifying, which is another big loss to the country as well as to the parents. Many Sri Lankan youth reportedly view migration or international schooling as an opportunity to enhance their employment prospects, and Sri Lanka's tertiary-level student population is quite mobile – in part because higher education in Sri Lanka has insufficient capacity to address student demand, especially at the undergraduate level (D'Souza, and Moore, 2017). Sri Lanka has an under-developed higher education sector which needs to be expanded rapidly to help attain the country's ambition to achieve fast, equitable growth and upper middle-income countries (UMIC) status. With a gross enrolment ratio (GER) of 19% in 2013 Sri Lanka is well below UMICs and even LMICs, which have average GERs of 37 and 23% respectively (AHEAD, 2018). The private schools were introduced in Sri Lanka in 1989 and it is noted a shift in the paradigm of school education leading to substantial change in parents' mind-sets. The traditional dependence on government education system was changed and parents logically understood the private

schools are delivering a responsible service at an affordable price. The difficulty of gaining slot in most preferred government school became a miraculous task due to heavy competition for popular schools.

Socioeconomic factors in education

Socioeconomic status is the person's economic and social position in relation to others. The income, education, employment, community safety, and social supports are usually considered as social and economic factors. These factors can significantly affect how well and how long people live. Access to good educational institutes, stable jobs, social security, and strong social networks are fundamentals in living a good life while healthy choices and affordability to best medical care that allows people to live longer. Employability is seen as one of the developmental parameters, and low employability leads to social deterioration and disruption that hampers the development of a country (Wickramasingh and Wijenayake, 2017). These are highly interrelated because employment (or entrepreneurship) provides income that facilitates housing, education, childcare, food, medical care, savings that relieves stress for possible economic crises throughout the life. In contrast, unemployment or underemployment deprives peoples' access to quality of life and bring distress. The universities naturally inherit the responsibility to guarantee that their graduates are equipped with the right knowledge, skills, and attitudes to support the realization of knowledge-based economy in the country (Wickramasinghe and Wijenayake, 2017). Tables 2, 3, 4 and 10 explain the general social indicators, gender wise labour force participation rate, gender wise labour force unemployment rate, and key economic indicators between 2014-2020 in Sri Lanka. These analyses provide a clear message about the socioeconomic scenario. Creating a shift in the psychological paradigm in the next generation about the choice for tertiary education would be important to align the industry demand with the type of graduates produced by the university system. Data collected via literature, focus group, and case study to ascertain the influence of socioeconomic Factors on students' choice for tertiary education. Key socio-economic factors in education namely, parental level of education, parental income, financial and material support by parent, language, parental involvement in child education and peer group in school environment will be discussed in the next chapters.

Parental level of education, and parental involvement in education

Tables 6 and 7 demonstrate the students' access to general education and university education during 1970 –

2019. The current parents consist of those who come from that social background. For example, a student accessed primary education in 1970 (year 1 in school enrol children of 5 years age) is now in his or her 56th year. Those who entered to a university in 1995 at the age of 20 years are now in the age of 46. In all probabilities their children may be exploring suitable path for the university education by now. Accordingly, we can get a basic idea about the status of the education level of parents in that generation. For example, 4,193,865 persons had accessed the general education in Sri Lanka in 1990. Out of them about 2% obtained their primary and secondary education mostly in English medium through private schools. The population share of age between 5-14 years in Sri Lanka is approximately 25%. Accordingly, the estimated share who had the access to general education in 1990 is more than 98%. Similarly, Table 8 displays the access to university education in numbers, age specific ratio, and admission versus eligibility. The studentship in universities has increased from 17,308 to 70,477 between 1980 and 2010. It shows that the share of graduates in the country has not exceeded even 1%. Therefore, parental level of education, and parental involvement in education at the tertiary level is not at favourable level in terms of students get reasonable input to their selection of academic discipline at university level.

The tertiary education in Sri Lanka is faced with two fundamental challenges. On one hand out of those passing the G.C.E. Advanced Level Examination only 17% enter universities while 83% are left behind. Nearly 125,000 students annually lose the opportunity to proceed to higher education due to the closed national higher education. This means, during the last 40 years we have sacrificed a minimum of two to four million of youths in Sri Lanka without any sustainable solution. On the other hand, there is a higher unemployment rate of graduates in the country even after this competitive selection process. While those who are deprived of an opportunity to pursue their higher education despite them qualifying, their future is unwelcoming for no fault of theirs. The highest unemployment rate (9.1%) is reported from the G.C.E. (A/L) and above group in Sri Lanka. It is 5.1 and 13.2% for male and female respectively (Department of Census and Statistics, 2018). As of 2017, total number of unemployed graduates in Sri Lanka was 34,316. Among the unemployed graduates, about 54% are Art degree holders while the other 46% consist with other degree holders (Department of Census and Statistics, 2017). The country also fares badly in terms of the proportion of higher education students enrolled in subjects of vital importance for economic development, such as the sciences (including medicine), technology, engineering, and mathematics. The proportion of students is just 17 percent, causing Sri Lanka to be ranked only 79 of 99 countries. For engineering alone, with an enrolment share of 8% the country fares even

worse at 92 of 103 countries (STEM) (AHEAD, 2018).

Parental income, financial and material support by parent

In the global marketplace, education leads to economic prosperity. People in a society get the knowledge, skills, and competence (KSC) they need to compete in the global marketplace, as well as the skills they need to make technology commodities that can be sold on the open market, through education. As a result, countries with more educated individuals prefer to compete with others by adding more value to society. It is evidenced from research that education and economic growth are highly correlated. In a research that used enrolment rate as a proxy for education and per capita GDP as a proxy for economic growth concluded that each additional year of enrolment increases per capita GDP from the data collected across more than 100 countries during the years 1960 to 1990. In another research it was found that variation in schooling explains approximately one third of the variation in economic growth. Some findings established that constant return to capital as it assumes that the other elements (labor and technology) that determine GDP grow proportionately with capital. In other words, each increase in capital increases output correspondingly. Their results indicate strong positive relationship on the long run between average GDPs per capita and the level of educational attainment, terms of trade and life expectancy (UKEssays, 2018). Table 9 provides the key economic indicators of Sri Lanka such as GDP, GNI, and per capita during 2014-2020. The financial and material support that could be extended to candidates accessing the tertiary education depends on this scenario. Also, the Table 10 provides the main welfare programmes, number of beneficiary families and value of grants. In addition, the students who get selected to government universities get the Mahapola higher education scholarship. This is an educational trust fund created and operated by the Government of Sri Lanka for the benefit of tertiary education.

Psychological paradigm shift can be influenced through the vertical integration efforts in education. For example, the majors that are being taught in the university can be included in the secondary level education. This would provide some entry to the subject area at early stages of the student. On the other hand, parents will be more aware about the evolving subjects that were, most probably, not available during their generation. With non-state universities increasing their capacity both quantitatively and qualitatively the government has now joined hands with private sector. The government offer a loan free of interest for those who secure minimum qualification to enter to a university. Interest Free Loan Scheme is an Interest Free Loan, granted to the students who have qualified in G.C.E (A/L) but have not been

selected to a State University based on the Z-score to follow a Degree offered by Non-State Higher Education Institutes. There are two positives in this novel approach. Firstly, more students can enter to tertiary education using this facility. Secondly, non-state universities have a wide range of degrees that students can select from. Table 5 explains the labour force and employment-overall and foreign employment. Sri Lanka being a developing country generally has a lower salary scales compared to developed country that attracts for foreign employment. Figure 4 shows the distribution of existing workforce which is self-explanatory to the parental income, financial and material support by parents.

Language

According to chapter iv 18. (1), of the constitution of the Democratic Socialist Republic of Sri Lanka “the Official Language of Sri Lanka shall be Sinhala; (2) Tamil shall also be an official language; and (3) English shall be the link language. Parliament shall by law provide for the implementation of the provisions that the national languages of Sri Lanka shall be Sinhala and Tamil. As per 21 under medium of instruction: a person shall be entitled to be educated through the medium of either of the national languages: provided that the provisions of this paragraph shall not apply to an institution of higher education where the medium of instruction is a language other than a national language; where one national language is a medium of instruction for or in any course, department or faculty of any university directly or indirectly financed by the state, the other national language shall also be made a medium of instruction for or in such course, department or faculty for students who prior to their admission to such university, were educated through the medium of such other national language: provided that compliance with the preceding provisions of this paragraph shall not be obligatory if such other national language is the medium of instruction for or in any like course, department or faculty either at any other campus or branch of such university or of any other like university; in this article "university" includes any institution of higher education” (GoSL, 2000).

The official school timetable allocates 3 h a week for the teaching of English in Grades 3 and 4 and 3.5 h in Grade 5. However, between 23.2 and 24.8% of time is lost between official prescriptions for time and classroom practices (Little et al., 2019). Many studies have shown that students are faced with challenges in English medium undergraduate classes of Sri Lankan universities where English is taught as a Second Language. Students who are weaker in their English proficiency have several issues concerning their language proficiency, which in turn, hamper their learning of content subjects. In 2000, the government gave permission to commence English medium classes in government schools but later proved

unsuccessful and the problem remains. Majority of respondents agree that the language as a key determinant of students’ dropout from university education or obtain comparatively weaker results than they did in the school where the language for instruction is Sinhala or Tamil. These underpinning issues may vary from common difficulties to serious barriers. Primarily there is a difficulty in understanding concepts at the university level if the English knowledge is poor. Even if they understand they consume excessive time and the level of knowledge they finally acquire will be lower.

In Sri Lanka, the admission of students to universities within the country is based on a quota system with a 40% merit quota, 55% district-wise quota and a 5% quota for educationally underprivileged districts based on their population. This has resulted to more students from rural areas joining the university. Generally, the competence in English of the students from these areas is lower. Currently, the district quota system is applicable for selection of students to all streams (Commerce, Biological Science, Physical Science and Technology streams) other than the Arts stream, where all-island merit-based admission operates (Gunawardane, 2021). They either get isolated among those who perform well or such students with similar feelings of inaccessibility and separation get into clusters rather than improving their English competence.

Peer group in school environment

The Sri Lankan Education system, particularly the GCE Advance Level examinations are focused mainly on five streams: Science, Mathematics, Commerce, Arts and Technology. Many Advance Level qualified students take up the choice of following an Information Technology degree programme, though their A/L preference was either the Bio/Science/Maths stream or the focus being on the commerce field. Not only does socioeconomic status (SES) include income, but it also includes educational attainment, financial security, and subjective notions of social rank and social class. Socioeconomic status can refer to a person's quality of life as well as the possibilities and privileges they have in society. Poverty, specifically, is not a single factor but rather is characterized by multiple physical and psychosocial stressors. Further, SES is a consistent and reliable predictor of a vast array of outcomes across the life span, including physical and psychological health. Thus, SES is relevant to all realms of behavioural and social science, including research, practice, education, and advocacy (APA, 2021). Table 12 and 14 displays the trend of students advancing to tertiary level and graduate output in numbers respectively. Figures 2, 3 and 4 explains the percentage of qualifying from the G.C.E. (Advanced Level) examination to enter University, distribution of various academic disciplines of degrees offered in Sri

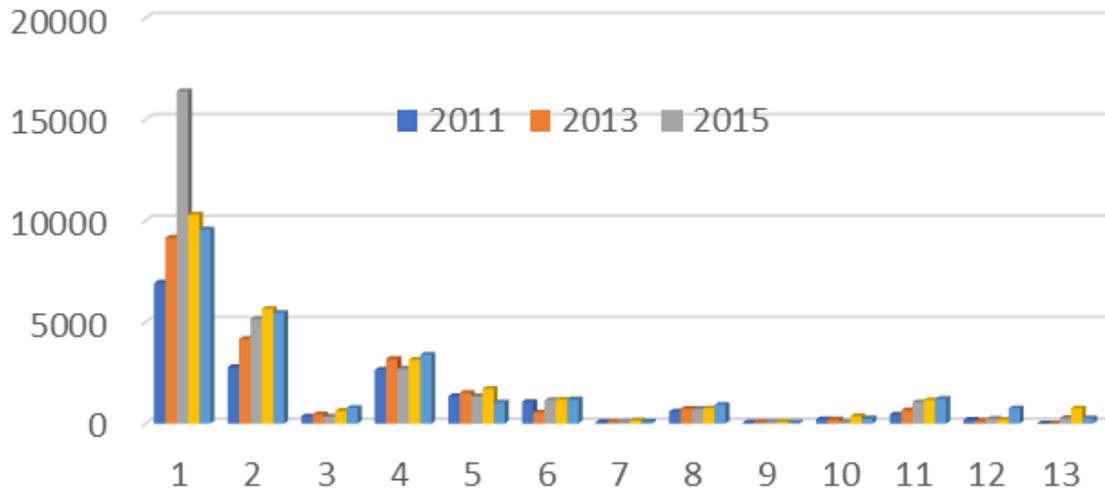


Figure 3. Distribution of various academic disciplines of degrees offered in Sri Lanka between 2011-2019 (CBSL, 2021). Key to Graph: 1. Arts and Oriental Studies (B.A.-B.A. Special); 2. Commerce and Management Studies (B.Sc.-B.Com.-B.B.A.); 3. Law (L.L.B.); 4. Science (B.Sc.); 5. Engineering (B.Sc. (Eng.)); 6. Medicine (M.B.B.S.); 7. Dental Surgery (B.D.S.); 8. Agriculture (B.Sc.); 9. Veterinary Science (B.V. Sc.); 10. Architecture and Quantity Surveying (B.Sc.); 11. Computer Science Information Technology ICT etc.; 12. Indigenous Medicine; 13. Paramedical Studies.

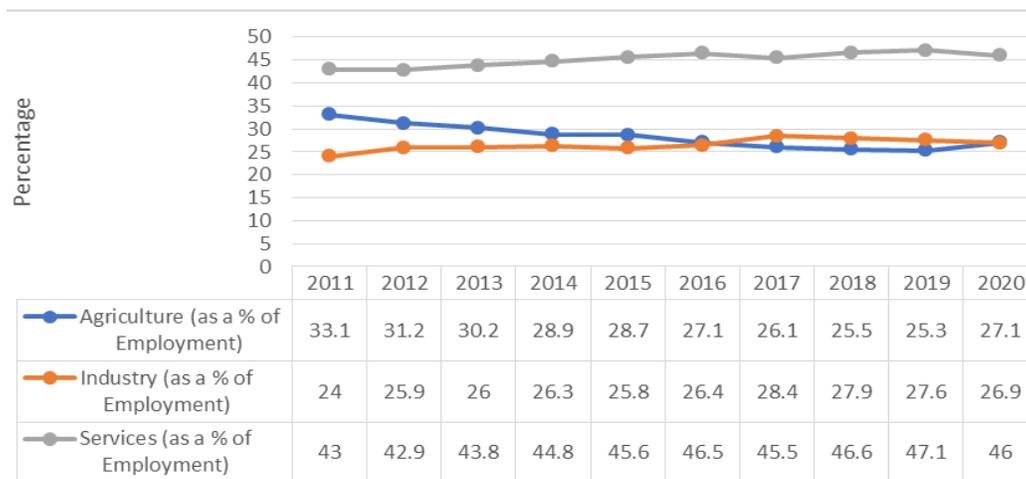


Figure 4. Distribution of existing workforce (CBSL, 2021).

Lanka between 2011-2019, and the students are exposed to this type of peer group in the school environment.

Conclusion

The study concludes there is a major Influence of socioeconomic factors in the students’ choice for tertiary education. Therefore, shifting the current psychological paradigm depends on how effectively those socioeconomic factors can be best utilised. The decision selecting the pathway to university education may be

guided by the macro-level policies, parental status and practices, students’ own values, characteristics, and mindfulness. Undergraduate education is a significant milestone in school leavers as the future career is also affected by this selection. Therefore, understanding the determinants of students’ choice in the undergraduate studies is vital. A well thought psychological paradigm shift of students’ choice may provide direct economic and social benefits to a country. However, it should be a learned decision by individual student rather than shifting towards global trends. The student should critically evaluate own strengths and weaknesses and align those

with the opportunities and threats in the world. It may be easier to make self-judgement on the strengths and weaknesses but evaluating opportunities and threats is a challenge because the estimates should be valid for the student's lifetime. The key factors namely, parental level of education, their involvement in education, parental income, financial and material support by parent, language, and peer group in school environment have a substantial influence of the students' choice. However, none of these factors are within the control of a person or an institute. Therefore, efforts are required in making available the most suitable pathways in the tertiary education. It is also important to provide the awareness to the students' parents, and peer groups about the trends and how the available opportunities are commensurate with everyone.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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