



IJRASET

International Journal For Research in
Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 Issue: X Month of publication: October 2021

DOI: <https://doi.org/10.22214/ijraset.2021.38553>

www.ijraset.com

Call:  08813907089

E-mail ID: ijraset@gmail.com

An Alternative PR Measurement through Localised Reach Value

Seamus C. C. Phan

Abstract: *The author discusses the antiquated and inaccurate attribution of advertising value equivalence (AVE) in traditional or dated measurements of what public relations (PR) practitioners and clients alike adopted for media coverage in relation to marketing expenditures. The author outlines recent trends in media coverage measurements, and proposes a more equitable and holistic measurement for such media coverage, coined by the author as Localised Reach Value.*

Keywords: *Measurement, statistics, analysis, data, public relations, marketing*

I. INTRODUCTION

The author explored the historical use of an antiquated public relations (PR) measurement known as Advertising Value Equivalence, or Advertising Value Equivalency (AVE), as well as current trends in PR measurement such as the Barcelona Principles from the the International Association for Measurement and Evaluation of Communication (AMEC). The author examines the current discrepancy between media coverage in media in different Asia Pacific countries, where there is diversity in reach, between nations, as well as between nations (or city states) and regional media within larger nations. The author proposes an alternative PR measurement coined Localised Reach Value (LRV) that factors in national and regional populations and their potential to spend on goods and services, for a more nuanced approach to presenting a more distributive PR measurement.

II. ADVERTISING VALUE EQUIVALENCE (AVE)

Public Relations (PR) sits in an often uncomfortable zone when measured against many advertising programmes. For example, when a marketing director of a client company appoints an advertising agency for a campaign, the expenses are easily explained and budgeted for, such as advertising costs paid to media owners, creative and production costs paid to the advertising agency, and perhaps talent costs when engaging an influencer or a celebrity to appear in such advertising campaigns. It is also fairly easy to explain why these costs need to be incurred, and what ROI (return on investment) are garnered after such advertising programmes, often in sales of products (in an example of a consumer products company) by revenue, directly attributed to the advertising programme through tracking.

Conversely, PR results were historically harder to justify or quantify, and PR agencies presented a simple calculation pegged to advertising costs, where a piece of media coverage on a publication would be claimed to be the “same” as an advertisement in reach and costs. PR agencies then explained to their clients that this yardstick, being earned media rather than paid media, meant that clients not only “saved” X dollars by not needing to pay media owners such advertising costs, but also benefited from having reached the same readership of such a publication. Up till the 1990s, many public relations (PR) practitioners and client companies alike, still used this simple equivalency to measuring the “value” of PR media coverage, in broadcast, in print, or later on, even online.

This was the advertising value equivalence (AVE), or advertising value equivalency (Macnamara, 2006). In simple terms, the lowest denominator of an AVE was calculated by taking the advertising rates equivalent for a print or broadcast coverage, and is therefore rated in dollars (or whichever currency of such a locale).

Some practitioners even calculated AVEs by adding an artificial inflated “multiplier” based on how important such media coverage was pegged at, or what a perceived “passed-on circulation” of a publication is (Weiner, Bartholomew, 2006).

For example, for a national daily newspaper reaching 1 million readers, some practitioners might deem PR coverage in such a publication as having more impact than say, coverage in a small magazine with a 20,000 subscriber base. Such “multipliers” can be two times or more, some even pegging “multipliers” of five times for such coverage. So if a piece of media coverage occupies a full page in a daily newspaper that has a base rate of say, US\$15,000, then the base AVE might be said to be US\$15,000. Or if some practitioners peg a “multiplier” of 3 times, then the AVE might be said to be US\$45,000.

Because of the arbitrary way the AVE is derived where the application of “multipliers” can differ from different practitioners or organisations, there is no way a person reading a PR coverage report claiming the “monetary value” the media coverage garnered is the same as how other practitioners may derive their own AVE for media coverage. Therefore, increasingly, the use of AVE became disputed amongst PR agencies and client companies alike, possibly due to:

- 1) Lack a quantifiable value equated to credibility claimed by media coverage;
- 2) Equate media coverage with paid advertising, which are not the same;
- 3) Lack a yardstick to the emotional or affective prosody of a published coverage;
- 4) Lack a equitable measurement or qualifier to readership or audience reach;
- 5) Lack a fair comparison of a piece of media coverage in relation to circulation or viewership compared to population and GDP (PPP) per capita, consumer spending percentage, or even in relation to competitive media;
- 6) Lack the factoring of the heterogeneity of nations, such as those in the Asia Pacific, in relation to media, language, and out-reach.

The author sought to explore if there are simple ways to have media coverage measured, that is not AVE-based, that may be more equitable to clients, agencies, media, and cross-border national comparisons.

III. BARCELONA PRINCIPLES

AMEC, and many international PR agencies, have eventually rejected the use of AVE as PR measurement, recognising that AVE is over-simplistic, arbitrary, open to dissent, inaccurate or impractical for PR results assessment (AMEC, 2017). Some of the valid arguments why AVE cannot be applicable to PR measurement include: some media do not have advertising rates, such as the BBC, or some online blogs which may be credible but do not offer advertising programmes. Also, AVE cannot cater to the premiums for certain media, such as the front page of a daily newspaper having much higher value compared to inside pages. Nor do AVE cater to the fact that editorial coverage can have a “tone” of positive, neutral, or negative, where journalists must try as much as possible to lend an unbalanced perspective to the coverage of news, while advertisements will always be in a positive tone (even if hyped or even untrue).

One of the current principles for PR measurement is from AMEC, named as Barcelona Principles, now in its third version (AMEC, 2020). As a set of principles tabled by seasoned PR practitioners, it is not as much a very defined method of measuring PR results, but rather, some guidelines on what can be measured, and what PR results are not (such as AVE). For example, AMEC tabled that goals should be defined first, so that outcomes can be agreed upon, and that the effects of such outcomes are more important than simply measuring outputs (such as having X number of media coverage).

AMEC’s Barcelona Principles talked about the importance of moving PR measurement towards an impact on stakeholders (whether internal or external), and even societal stakeholders. These stakeholders can be employees, government, institutions, non-profits, and the public.

The outcomes can be in terms of employee retention, lead generation (especially for business-to-business or B2B entities), and a change in consumer or customer behaviour or inclinations towards the brand or company. The channels to measure PR can be from traditional and mainstream media, to social media channels (whether that be the likes of Facebook, Twitter, Instagram, or LinkedIn), to even e-commerce, influencers (and their channels). Since it is a framework and guidelines, there can be latitude in how client companies and PR agencies can collaboratively define what to measure.

A. PR Outcome Matrices

Although the Barcelona framework represents some recommendations, PR practitioners are expected to interpret the framework based on their own understanding, and with the consensus of either their agencies and clients, derive a mutually agreed measurement matrix to move forward. Therefore, one PR practitioner may derive a matrix or reporting format different from another, and that is deemed acceptable, as long as any recipient of PR outcomes accepts that as valid.

The author proposes two matrix formats, shown in Figure 1 and Figure 2. In both Figures 1 and 2, the box highlighted in yellow represents the ultimate desired outcome.

Such matrices based on the Barcelona Principles preferably have a starting point for data, to establish a baseline for any PR programme or campaign, prior to starting such a programme or campaign.

In the absence of a starting point or baseline, the author proposes a simpler matrix format, as shown in Figure 1.

Figure 1: Simplified PR Outcome Matrix (sample)

| | Aware | Interest | Action |
|--|--|---|--|
| PR/Marketing Activity | Eg. Content creation, engagement with media, social media, influencers (bloggers, vloggers on various platforms, stakeholders, government, etc), events, etc. | | |
| Intermediary Effects (Cost per message, Gross rating point = Reach against % of population) | <ul style="list-style-type: none"> • Audience reach (traditional & social media) • Impressions/target audience • Number of media coverage • Video views • Frequency • Prominence • Share of voice | <ul style="list-style-type: none"> • Frequency of Good mentions • Expressions of interest • Followers, Likes on social media • Retweets/shares/linkbacks • Endorsed by journalists & influencers • Rankings on industry lists | <ul style="list-style-type: none"> • Sales • Marketshare • Share price • Staff retention & recruitment • Cost savings • Customer loyalty |
| Target Market Effects (use Web Polls, Analytics, Surveys) | <ul style="list-style-type: none"> • Awareness • Know company and products | <ul style="list-style-type: none"> • Website visits • Clickthroughs • Time on site • Links to website • Downloads • Calls • Event (virtual or physical) | |

For PR programmes and campaigns that have a study to determine the baseline, the author proposes Figure 2 as a potential template.

Figure 2: PR Outcome Matrix (sample)

| | Aware | Understand | Interest | Prefer | Action |
|--|--|--|---|--|--|
| PR/Marketing Activity | Eg. Content creation, engagement with media, social media, influencers (bloggers, vloggers on various platforms, stakeholders, government, etc), events, etc. | | | | |
| Intermediary Effects (Cost per message, Gross rating point = Reach against % of population) | <ul style="list-style-type: none"> • Audience reach (traditional & social media) • Impressions/target audience • Number of media coverage • Video views • Frequency • Prominence • Share of voice | <ul style="list-style-type: none"> • Key message alignment • Accuracy of facts | <ul style="list-style-type: none"> • Frequency of Good mentions • Expressions of interest • Followers on social media • Retweets/shares/linkbacks | <ul style="list-style-type: none"> • Endorsed by journalists & influencers • Rankings on industry lists • Expressions of preference • Followers on social media • Likes on social media posts | <ul style="list-style-type: none"> • Sales • Market-share • Share price • Staff retention & recruitment • Cost savings • Customer loyalty • |
| Target Market Effects (use Web Polls, Analytics, Surveys) | <ul style="list-style-type: none"> • Awareness | <ul style="list-style-type: none"> • Know the company and products | <ul style="list-style-type: none"> • Website visits • Click-throughs • Time on site • Downloads • Calls • Event (virtual or physical) | <ul style="list-style-type: none"> • Attitude change • Increase in trust and admiration • Endorsement • Believe in brand • Links to site • Better relationship with stakeholders | |

IV. LOCALISED REACH VALUE (LRV)

The Gross Domestic Product (GDP), even though it is flawed in being skewed by the material well-being and income of the very wealthy compared to the average and below-average wage earners, is still a commonly used yardstick for estimating income earned or money spent on goods and services in a locale (OECD, 2020).

Not all nations, media, outreach, consumer spending, language, are homogeneous. This is especially true in diverse locales throughout Asia Pacific (APAC).

For example, the second most populous country in the world, India (UN/Worldometer, 2021), features the national language Hindi, but also many other major spoken languages or dialects, such as Bengali, Marathi, Telugu, Tamil, Gujarati, and so on (Statista, 2011). For example, the local Indian Singaporeans are mostly Tamil speakers, who would not understand Hindi. Recent migrant Indians to Singapore may come from various parts of India, speaking Hindi, but seldom speaking Tamil.

Taking another example on consumer spending, an average middle income person in Singapore, or an average middle income person in Shanghai Municipality, or Guangdong Province, China, may spend more monthly on discretionary consumer products and services than an average person in Nyemo County, Tibet, even though Tibet has slowly emerged better in GDP through China's poverty alleviation efforts (Unicef, 2017). The Gross Domestic Product (GDP) and Purchasing Power Parity (PPP) per capita (OECD, 2000-2020) may provide a simple and easy-to-understand baseline to have a fair and equitable measurement of per capita versus the population of a nation.

Next, while some locales may have some homogeneity in language used in communication, spoken or written, while some others may not. For example, in Hong Kong SAR, the working languages will be English and Cantonese (with written Traditional Chinese). The bulk of the media will be in Cantonese (spoken) and Traditional Chinese (written), and to a lesser degree, English. In Singapore, the multicultural mix will be greater, and has to cater to the working language of English, and a fair mix of Mandarin (with written Simplified Chinese), Malay (Bahasa Melayu), and Tamil. In mainland China, although English can be used, the bulk of the working language will be Mandarin (with written Simplified Chinese). Likewise, the bulk of the media in South Korea will be in Korean, and in Japan, the bulk of the media in Japanese.

In many media coverage services, either offered by third-party service providers, or compiled in-house by PR agencies or communications departments within client companies, there are no distinction between media coverage from one nation to another, nor that of provinces in larger nations. For example, a “Tier 1” full-page daily newspaper feature coverage in a small nation such as Singapore, is recorded in media coverage reports typically as the same as a “Tier 1” full-page daily newspaper in Beijing, China or Tokyo, Japan, even though each of these cities or nations are distinctly and diversely different in terms of population sizes, languages, outreach, consumer spending, and so on. There is no homogeneity. Likewise, a full-page daily newspaper appearing in say, Macau, which is a Special Administrative Region (SAR) similar to a province in China, typically such a media coverage would be recorded down with no distinction to it being a municipal or regional coverage with a much smaller population and potential outreach, compared to say, a national daily newspaper for the entire China.

PR campaigns are today cross-border in Asia Pacific, where many companies are looking to expand in this emerging and fast growing economic region. Marketing and business leaders often have to understand and grapple with what kind of PR outcomes may result from running PR programmes and campaigns. And yet, each nation brings to the table many variables, such as population, GDP (which has a relative value to consumer spending), percentage of consumer spending by GDP, total number of equivalent media in that nation, circulation of particular media, campaign length, and so on. These variables are often much more esoteric compared to organisations operating in a single, more homogenous nation, such as the United States of America (USA), where media is much more pervasive and sophisticated, and English is the de facto language, spoken and written.

With the advent of more current measurements of PR programmes and campaigns in relation to outcomes, reputation, brand management, and social outreach, the AVE has been largely shunned by PR practitioners, agency or client-side.

Beyond the Barcelona framework from AMEC, the author proposes that PR coverage can be measured through the Localised Reach Value (LRV), where there are two approaches to measuring a national-level Reach Value (usually practical for city states such as Singapore which is indivisible in media outreach due to its small size and population as a nation), coined Gross Reach Value (GRV), or a regional-level Reach Value (usually for provinces or municipalities within larger nations such as China, where the RV may be for a densely populated municipality or city such as Shanghai, or Hongkong SAR, or a province such as Hebei), coined Regional Reach Value (RRV).

The variables for calculating these Reach Values include:

- 1) Campaign length (e.g. 12, for 12 months retainer);
- 2) Media cost (e.g. S\$27,828 for full-page 4-colour Straits Times);
- 3) Circulation (e.g. 378,000);
- 4) Tone (if the coverage was Positive, Neutral, Negative, or Bonus. Bonus means endorsed mention by reputable third parties);
- 5) Coverage size (e.g. Full page = 1);
- 6) National GDP PPP per capita in International Dollars (Schmidt, 2019);
- 7) Population of nation (Pop);
- 8) Consumer spending as a fraction of the nation’s GDP;
- 9) Baseline GDP pegged to the lowest GDP in the world to calculate relativity;
- 10) Estimated population of the lowest GDP nation to calculate relativity;
- 11) (Optional - for media with regional reach) Average GDP PPP of Asia Pacific to calculate regional coverage indicators;
- 12) (Optional - for media with regional reach) Regional population of Asia Pacific region to calculate regional coverage indicators;
- 13) (Optional - for media with regional reach) Average consumer spending as a fraction of the region’s median GDP.

Campaign Length (CLength) may have an impact on PR effectiveness against a period of time. If a retainer is 12 months, the CLength is 12. If a campaign is a one-off launch event, typically the CLength should be 3 (before, during, and after event, for media coverage tracking and reporting, for 3 months).

Tone may be used to discern the quality of a coverage, by assigning a numerical value to whether the coverage was Positive (5), Neutral (3), Negative (1), and Bonus (10). The baseline is 1. A bonus value of 10 is given to Tone should the coverage feature third-party endorsements or comments on how good the product is. For example, if a doctor mentions that a particular product is really helpful and curative, then the Tone is given a value of 10, rather than just 5 (for positive coverage). This is because a third-party endorsement is rated much more than company executives.

Coverage Size (CSize) determines the quantitative value of a coverage, by assigning a numerical value to whether the coverage is a full-page, part of a page, a quote, or just a name/brand/company mention.

GDP (PPP), Gross Domestic Product (Purchasing Power Parity) per capita, is an international measurement of the national Gross Domestic Product, which is inward-looking, rather than exports or overseas business, and compare it to the purchasing power compared to an international value, to give a relative value to what cost and standard of living is in the nation. It may be used as a measure of how one nation compares to another on a per capita level (per person).

- a) Consumer Spend (nSpend) is a publicly available value attached to national GDP (PPP) and population, to determine how much would a single person spend against the national GDP value. This is a good measure of the consumer purchasing power in the nation.
- b) Average GDP PPP (aGDP) is for calculating media coverage for regional media such as regionally syndicated TV channels.
- c) Regional Circulation (regionalCir) is the total circulation of a regional media, minus the local circulation of a nation. For example, if a TV channel has 24 million viewers in Asia Pacific, and the SG viewership is 100,000, then the Remaining Circulation (reCir) should be 23.9 million.
- d) Lowest GDP (lowGDP) uses the lowest published GDP of a nation (e.g. Congo) and uses it for relativity calculations compared to national and regional GDP.

Therefore, the Gross Reach Value (GRV) based on the variables for a local media in a country such as Singapore would be:

Figure 3: Gross Reach Value (GRV) for local media

$$\frac{M\text{Cost} \times \text{Circulation} \times \text{Tone} \times \text{CSize} \times (\text{nGDP} \times \text{nSpend})}{\text{nPop} \times \text{CLength}}$$

For regional media, the formula factors the average GDP, average CSpend, and regional population into account. The Regional Reach Value (RRV) factors in the lowest GRP so that the Reach Value is measured from the local national GRP against that of the lowest GRP. So the formula changes to:

Figure 4: Gross Reach Value (GRV) for regional media

$$\frac{M\text{Cost} \times \text{regionalCirculation} \times \text{Tone} \times \text{CSize} \times (\text{aGDP} \times \text{aSpend})}{\text{regionalPop} \times \text{CLength}}$$

A. Sample Comparison of Reach Values by Locale

The author presented some sample comparisons of equitable media (English newspapers), with a full page coverage, comparing 4 different locales, including Hongkong SAR, which is equal to a municipality or province of a nation (China).

Figure 5: Gross Reach Value (GRV) sample comparison

| | | SG | CN | HK SAR | MY |
|---|-------------|--------------|---------------|--------------|------------|
| Example media | | ST | CN Daily | SCMP | Star |
| Campaign Length | CLength | 12 | 12 | 12 | 12 |
| Media Cost Full Page | MCost | 27,828 | 24,807 | 32,082 | 11,483 |
| Circulation | Cir | 378,000 | 500,000 | 101,801 | 295,479 |
| Pos (5) Neu (3) Neg (1) Bonus (10) | Tone | 1 | 1 | 1 | 1 |
| Full (1), Part (0.5), Quote/Mtn (0.25) | CSize | 1 | 1 | 1 | 1 |
| National | | | | | |
| GDP PPP int\$ | nGDP | 57,505 | 7,536 | 46,157 | 14,591 |
| Population of Nation | nPop | 5,076,700 | 1,339,724,852 | 7,108,100 | 28,659,000 |
| Consumer Spend | nSpend | 49% | 37% | 62% | 50% |
| Regional | | | | | |
| Average GDP PPP int\$ | aGDP | 0 | 0 | 0 | 0 |
| Population of Region | regionalPop | 0 | 0 | 0 | 0 |
| Regional Circulation | regionalCir | 0 | 0 | 0 | 0 |
| Consumer Spend Re- gional | aSpend | 0.00% | 0.00% | 0.00% | 0.00% |
| Baseline numbers | | | | | |
| Lowest GDP USD300 | lowGDP | 390 | 390 | 390 | 390 |
| Gross Reach Value (GRV) | | | | | |
| Without factoring intGDP | GRV | 4,865,334.86 | 2,151.25 | 1,095,741.14 | 71,977.17 |
| GRV/cost | | | | | |
| Demo fees (SGD) | Fee | 6,000 | 6,000 | 6,000 | 6,000 |
| GRV by fees | GRVcost | 810.89 | 0.36 | 182.62 | 12.00 |
| Regional Reach Value (RRV) | | | | | |
| Factoring intGDP | RRV | 12,475.22 | 5.52 | 2,809.59 | 184.56 |
| RRV/cost | | | | | |
| Demo fees (SGD) | Fee | 6,000 | 6,000 | 6,000 | 6,000 |
| RRV by fees | RRVcost | 2.08 | 0.00 | 0.47 | 0.03 |

To measure against campaign spending or agency retainer fees, the author proposes that the Gross Reach Value (GRV) or the Regional Reach Value (RRV) be divided by the costs or fees. For an illustrative sample, please refer to Figure 5.

B. Consumer Spending, GDP and Population (Asia Pacific)

This table provides the indicative figures for calculating Reach Value (UNSD, 2009).

Figure 6: National GDP, Population, and Consumer Spending

| Country | Population | CSpend | nGDP (int\$) |
|-------------|---------------|--------|--------------|
| Australia | 22,546,300 | 0.56 | 39,407 |
| Bangladesh | 142,319,000 | 0.75 | 1,643 |
| Brunei | 406,000 | 0.19 | 49,494 |
| Cambodia | 13,395,682 | 0.95 | 2,150 |
| China | 1,339,724,852 | 0.37 | 7,536 |
| Hong Kong | 7,108,100 | 0.62 | 46,157 |
| India | 1,210,193,422 | 0.57 | 3,586 |
| Indonesia | 237,556,363 | 0.59 | 4,293 |
| Japan | 127,720,000 | 0.58 | 33,994 |
| Laos | 6,348,800 | 0.73 | 2,543 |
| Macau | 558,100 | 0.25 | 60,633 |
| Malaysia | 28,659,000 | 0.5 | 14,591 |
| Myanmar | 48,337,000 | 0.79 | 1,256 |
| Nepal | 26,620,809 | 0.8 | 1,190 |
| New Zealand | 4,417,700 | 0.59 | 29,915 |
| Pakistan | 177,689,000 | 0.79 | 2,674 |
| Philippines | 94,013,200 | 0.74 | 3,940 |
| Singapore | 5,076,700 | 0.49 | 57,505 |
| South Korea | 48,219,000 | 0.54 | 29,004 |
| Sri Lanka | 20,653,000 | 0.66 | 5,040 |
| Taiwan | 23,197,947 | 0.64 | 35,604 |
| Thailand | 69,100,955 | 0.55 | 8,490 |
| Vietnam | 85,846,997 | 0.67 | 3,181 |

V. CONCLUSIONS

The author explored the use of Advertising Value Equivalence (AVE) in his early years as a public relations and marketing practitioner, and eventually found serious discrepancies in terms of a lack of standardisation of media coverage reporting among many AVE adherents, resulting in perception challenges when discussing with prospective clients. The author, when adopting AVE in earlier years, always insisted on AVE without any artificial “multipliers”, which in turn resulted in lengthy explanations with prospective clients on why “multipliers” were not universal nor accurate. Eventually, the author found AMEC’s Barcelona framework, which set the author thinking to explore eventual new media coverage measurements, and which in turn led him to explore the possibility of a more equitable and holistic measurement for such media coverage. The author examines the current discrepancy between media coverage in media in different Asia Pacific countries, where there is diversity in reach, between nations, as well as between nations (or city states) and regional media within larger nations. The author proposes an alternative PR measurement coined Localised Reach Value (LRV) that factors in national and regional populations and their potential to spend on goods and services, for a more nuanced and more inclusive approach to presenting a more distributive PR measurement.

REFERENCES

- [1] Macnamara J, 2006, “Advertising Values to Measure PR: Why They Are Invalid”, viewed September 7, 2021, <https://www.researchgate.net/publication/265660059_Advertising_Values_to_Measure_PR_Why_They_Are_Invalid>.
- [2] Weiner M, Bartholomew D, 2006, “Dispelling the Myth of PR Multipliers and Other Inflationary Audience Measures”, viewed September 8, 2021, <https://instituteforpr.org/wp-content/uploads/Dispelling_Myth_of_PR_Multiplier.pdf>.
- [3] AMEC, 2017, “22 Reasons to say no to AVEs”, viewed September 8, 2021, <<https://amecorg.com/2017/06/the-definitive-guide-why-aves-are-invalid/>>.
- [4] AMEC, 2020, “Barcelona Principles 3.0”, viewed September 8, 2021, <<https://amecorg.com/barcelona-principles-3-0-translations/>>.
- [5] OECD, 2020, “Gross domestic product (GDP)”, viewed September 8, 2021, <<https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>>.
- [6] Worldometer, data based on latest United Nations Population Division estimates, 2021, “Countries in the world by population (2021)”, viewed September 10, 2021, <<https://www.worldometers.info/world-population/population-by-country/>>.
- [7] Statista, 2011, “Most common languages spoken in India in 2011”, viewed September 10, 2021, <<https://www.statista.com/statistics/616508/most-common-languages-india/>>.
- [8] Unicef China, 2017, “Urban per capita disposable income, by province, 2017”, viewed September 10, 2021, <<https://www.unicef.cn/en/figure-24-urban-capita-disposable-income-province-2017>>.
- [9] OECD, 2000-2020, “Purchasing Power Parities (PPP)”, viewed September 10, 2021, <<https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm>>.
- [10] Schmidt M, 2019, “Business Encyclopaedia”, viewed September 10, 2021, <<https://www.business-case-analysis.com/international-dollar.html#international-dollar-defined>>.
- [11] UNSD (United Nations Statistics Division), 2009, “Demographic Yearbook 2009-2010”, viewed on September 10, 2021, <<https://unstats.un.org/unsd/demographic/products/dyb/dyb2009-2010.htm>>.
- [12] UNSD, 2009, “National Accounts - Analysis of Main Aggregates (AMA)”, viewed on September 10, 2021, <<https://unstats.un.org/unsd/snaama/Index>>.

APPENDICES

© Seamus C. C. Phan 2011, 2021. All rights reserved.

- 1) *Acknowledgements*: The author would like to thank past and existing clients, colleagues, and academic peers who at some points of his career lent many useful and formative perspectives, which culminated in the emergence of this work. The work reported in this paper is original and carried out by the author solely.
- 2) *Funding*: This research received no external funding.
- 3) *Conflicts of Interest*: The author declares no conflict of interest.
- 4) *Declaration of Confidentiality (I.P.R.)*: The participant of accessing this document shall keep confidential all confidential information (including but not limited to know-how, results of research and development, trade secrets, business secrets) disclosed on occasion of the participant’s access towards unauthorised third parties and shall not use it for own especially commercial purposes. The participant shall take reasonable measures in order to prohibit unauthorised third parties from access to such confidential information. Information are not deemed confidential information if they are or become known to the public or are already in the lawful possession of the participant.

Unauthorised third parties are any third parties as well as employees of the organisation in which the participant is from, not concerned with the content of this document.

The obligations pursuant herewith shall survive the termination of the access of this document.

Name (participant)

Date

Signature (participant)



10.22214/IJRASET



45.98



IMPACT FACTOR:
7.129



IMPACT FACTOR:
7.429



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24*7 Support on Whatsapp)