

WRITTEN EVIDENCE OF EDGAR BAUM, BRAND FINANCE

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3 **INTRODUCTION AND SUMMARY OF QUALIFICATIONS**
4

5 **Q.1. Please state your name, occupation and business address**
6

7 A.1. My name is Edgar Baum. I am the Managing Director, North America, for
8 Brand Finance (Canada) Inc. in Canada and I am the lead representative in
9 North America for Brand Finance plc, the parent corporation. Brand Finance has
10 previously conducted Brand Valuations and similar engagements for the City of
11 Seoul, Department of Foreign Affairs of the Government of Canada, Government
12 of the United Kingdom, Government of Ghana, Government of South Africa
13 amongst others. Brand Finance also publishes an annual Nation Brands report
14 for the purposes of determining and evaluating contribution of national brands
15 toward economic prosperity.
16

17 I have led numerous brand valuation exercises for Brand Finance including a
18 nation brand assessment for Foreign Affairs and International Trade Canada.
19

20 I sit on the International Standards Committee ISO/TC 289 for Brand Evaluation
21 as Vice Chair for Canada's participation. I am also an Advisor on the American
22 Marketing Accountability Standards Board pertaining to reporting standards for
23 Intangible Financial Reporting (IFR).
24

25 I have regularly lectured on Brand Valuation at numerous universities across
26 North America including Northwestern, Hult Business School, NYU-Stern,
27 University of Toronto and Queens University. I am presently developing a post-
28 graduate course on brand measurement for the University of Toronto and will
29 begin lecturing in September 2015.
30

31 Prior to joining Brand Finance, I had 12 years of experience in credit risk
32 analysis, corporate valuation, and brand analysis in private practice, at Procter &
33 Gamble, and Merrill Lynch. My detailed resume is attached at **Appendix A**.
34
35

36 My address is: Edgar Baum, Managing Director, Brand Finance (Canada) Inc.,
37 18 King St. East, Mezzanine Level, Toronto, Ontario M5C 1C4.
38

39 **Q.2. Have you previously testified before the National Energy Board?**
40

41 A.2. No.
42
43

44 **Q.3. Do you submit the contents of this document and the Appendices as**
45 **as your written evidence?**
46

1 A.3. Yes, this is my written evidence.
2

3 I was assisted in the preparation of this evidence by Bryn Anderson, a Senior
4 Valuation Director and the Chief Operating Officer for Brand Finance plc. Mr.
5 Anderson leads Brand Finance's development and reporting of the GIFT™
6 report, a decade plus long study of the contribution of intangibles and brands to
7 enterprise value. He is also Brand Finance's lead author and valuator of the
8 Nation Brands Study, an annual publication from Brand Finance that evaluates
9 the contribution of nation brands to their respective economies.

10
11 Mr. Anderson has participated in hundreds of brand valuations for corporations,
12 nations, and municipalities and Bryn was the lead valuator for Brand Finance on
13 City of Seoul, Great Britain, Government of South Africa, and Government of
14 Ghana brand valuation engagements.

15
16 A detailed resume for Mr. Anderson is attached as **Appendix B**.

17
18 **Q.4. What is the purpose of your evidence in this proceeding?**

19
20 A.4. The City of Vancouver has retained Brand Finance (Canada) Inc. to
21 conduct an independent assessment of the Brand Value of the City of Vancouver
22 brand and to determine what impact, if any, an oil spill in the Metro Vancouver
23 area (defined as the City of Vancouver, surrounding municipalities, and bordering
24 water bodies of the Pacific Ocean and Fraser River) would have on this Brand
25 Value from an economic standpoint.

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28 **SUMMARY OF CONCLUSIONS**

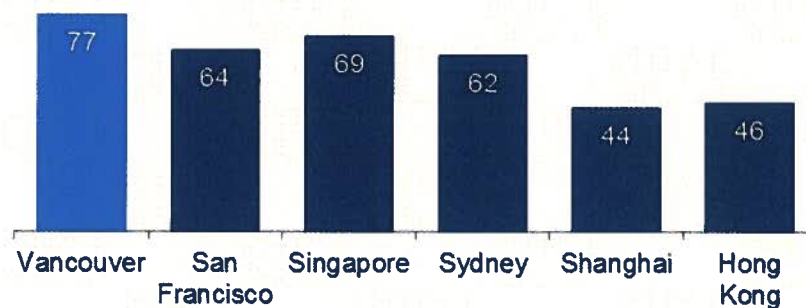
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30 **Q.5. Please summarize your conclusions:**

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32 A.5. My conclusions are summarized in the following paragraphs.

- 33
34 a. The City of Vancouver brand was valued using a brand strength
35 assessment (the "Brand Strength Index (BSI)"). The BSI is a balanced
36 scorecard framework that was used in this study to determine the overall
37 strength of the brand of a municipality relative to its five other competitor
38 municipalities on the following components of brand strength: (1)
39 Municipal investment in infrastructure and other municipal assets,
40 programs and services (referred to as "**Brand Investment**"); (2)
41 Perceptual and behavioural equity based on independent market research
42 (referred to as "**Brand Equity**"); and (3) Economic performance of the
43 municipality including, for example, GRDP per capita, crime rate and
44 energy consumption (referred to as "**Brand Performance**").
45

- 1 b. Brand Investment and Brand Performance data were sourced from Oxford
2 Economics, Statistics Canada, Conference Board, OECD, Bloomberg and
3 other publicly available sources. Each of these components represent
4 25% of the city's overall BSI score.
5
6 c. To determine the Brand Equity component of the BSI, Brand Finance
7 commissioned an independent market research study to determine the
8 brand strength and perceptual brand equity of the City of Vancouver brand
9 relative to six other cities in the study.
10
11 d. Brand Equity represents the relative perceptions and resulting behaviours
12 amongst stakeholders (business leaders, students, tourists and residents)
13 that generate financial value for the City of Vancouver and the comparable
14 cities. The Brand Equity score was compiled based on the responses from
15 1100 participants worldwide to a number of market research questions
16 which compared the City of Vancouver to five other international cities.
17 The relative Brand Equity scores for each of the six cities are summarized
18 in Figure 1 below. The Brand Equity score for the City of Vancouver is 77
19 out of 100.

Figure 1: Brand Equity Scores



- 20
21
22 e. The responses from a significant majority of respondents to the
23 independent market research study demonstrated that the City of
24 Vancouver brand is associated with the environment, 'green' living, and
25 environmental leadership that was discernably ahead of that of the five
26 other city brands studied (Figure 2). For example, with Q4d, What is your
27 overall impression of the following cities as a place for sustainability?
28 Vancouver significantly outperformed the rest of the competition leading to
29 a score of 5.
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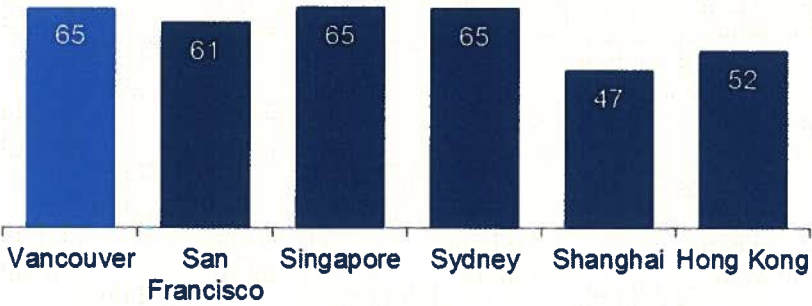
Figure 2

Figure 2						
Metric list	Question	Vancouver	SF	Singapore	Sydney	Shanghai Hong Kong
Overall impression for sustainability	Q4d. What is your overall impression of the following cities as a place for sustainability?	5.00	4.06	2.10	2.41	1.31 1.00
Associations with clean technology or green / sustainable	Q8.8. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	5.00	3.57	3.04	3.49	1.15 1.00
Natural scenery	Q7.1. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	5.00	4.80	2.42	4.80	1.00 1.61
Exists in harmony with its environment	Q6.15. And please indicate how strongly you agree with the following statements about [CITY].	5.00	3.46	3.38	4.15	1.00 1.38
Protective of its environment	Q5.4. How would you rate [City] on the following	5.00	3.18	3.84	4.05	1.36 1.00
Consider to be 'green' or eco-friendly	Q6.10. And please indicate how strongly you agree with the following statements about [CITY].	5.00	3.90	3.39	3.90	1.00 1.00

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f. Combining the Brand Equity score with the Brand Investment and Brand Performance scores, Brand Finance determined a relative brand strength score (the BSI) for the City of Vancouver of 65 out of 100. The BSI scores for all six comparator cities is summarized in Figure 3 below.

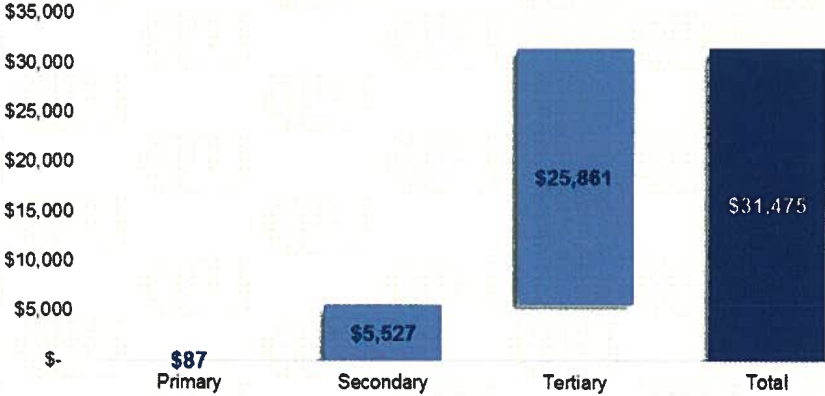
Figure 3: Overall Brand Strength



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g. Brand Finance applied the BSI score for the City of Vancouver to the forecast GRDP using a Royalty Rate Methodology and calculated the Brand Value of the City of Vancouver on this basis. The City of Vancouver's Brand Value is valued at \$31 billion¹ as at January 31, 2015. Figure 4 below breaks the total Brand Value figure into the brand contribution from each sector of the economy as follows: (1) Primary (resource) - \$87 million; (2) Secondary (manufacturing and labour) - \$5,527 million; and (3) Tertiary (knowledge & services) - \$25,861 million. A detailed breakdown of the valuation is attached at **Appendix C**.

Figure 4: Vancouver Brand Value (\$millions)



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¹ All figures were calculated in USD

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- h. As part of the independent market research, the survey respondents were also asked to provide feedback regarding the changes in their perceptions of and behaviours toward each of the six cities in the event of an oil spill. Respondents were asked questions based on three degrees of severity: small spill, medium spill and large spill. These study results informed the assessment of the Brand Equity score for the City of Vancouver and the potential impairment of the overall brand in the event of an oil spill.

- i. Table 1 summarizes the impact of a small, medium and large spill on the City of Vancouver’s Brand Equity using three different levels of perceived impairment: conservative, mid-level, and aggressive. The different levels of perceived impairment were assessed as follows:
 - 1. The conservative assessment applied a 40% reduction to the respondent’s survey scores where the respondent’s overall impression of the city’s brand was “significantly lower” in the event of an oil spill and a 20% reduction was applied where the respondent’s overall impression of the city’s brand was “somewhat lower”.
 - 2. The mid-level assessment applied a 50% reduction to the respondent’s survey scores where the respondent’s overall impression of the city’s brand was “significantly lower” in the event of an oil spill and a 25% reduction was applied where the respondent’s overall impression of the city’s brand was “somewhat lower”.
 - 3. The aggressive assessment applied a 66% reduction to the respondent’s survey scores where the respondent’s overall impression of the city’s brand was “significantly lower” in the event of an oil spill and a 33% reduction was applied where the respondent’s overall impression of the city’s brand was “somewhat lower”.

The results of this assessment of the potential impairment of the City of Vancouver’s Brand Equity in the event of an oil spill are set out in Table 1 below.

Table 1: Brand Equity impairment on various oil spill scenarios				
Score (/100)	Base	Conservative	Mid Level	Aggressive
Small Spill	77	63	59	55
Medium Spill	77	57	52	47

Large Spill	77	47	42	35
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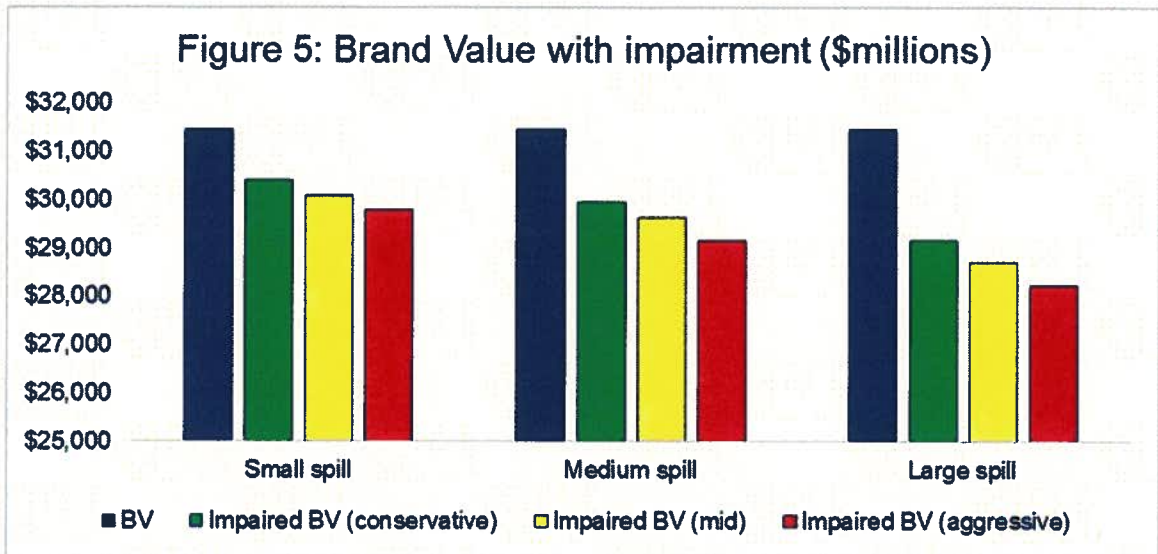
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j. The Brand Equity assessment is one component of the Brand Strength Index (BSI). The changes in Brand Equity in the event of an oil spill (Table 1) were used to determine the overall impairment to the BSI score for the City of Vancouver under the different spill scenarios. The resulting BSI scores are summarized in Table 2. Looking at the mid level assessment, the City of Vancouver's BSI score was lowered to a score of 55 in the event of a small spill and was reduced to 46 in the event of a large spill.

Table 2: Overall Brand Strength impairment under various oil spill scenarios			
Small Spill – BSI score changes			
Vancouver baseline	Conservative	Mid Level	Aggressive
65	56	55	53
Medium Spill – BSI score changes			
Vancouver baseline	Conservative	Mid Level	Aggressive
65	53	52	49
Large Spill – BSI score changes			
Vancouver baseline	Conservative	Mid Level	Aggressive
65	49	46	43

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k. Brand Finance was able to calculate the impairment of a small, medium and large oil spill to the overall Brand Value of the City Vancouver based on the changes to the BSI score (Table 2). Looking at the mid level assessment, a small spill would result in a \$1.3 billion reduction in Brand Value, a medium spill would result in a \$1.8 billion reduction and a large spill would result in a \$3 billion reduction in Brand Value. The results of the Brand Value impairment calculations are summarized in Figure 5 below.



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I. In conclusion, Brand Finance has determined that an oil spill would result in the impairment of the City of Vancouver brand and a reduction in Brand Value ranging between \$1.3 billion and \$3 billion for the mid-level assessment, depending on the size of the spill.

SUMMARY OF ANALYSIS CONDUCTED

Q.6. Please provide a summary of the analysis that you conducted in order to carry out the assessment described above.

A.6. This study had two objectives. First, to conduct a behavioural and financial assessment of the strength and value of the City of Vancouver brand. Using this behavioural and financial assessment as a baseline, the second objective was to determine what, if any, impact an oil spill in the Metro Vancouver area (the “GVA”) would have on the value of the City of Vancouver brand.

The study was conducted in accordance with the ISO:10668 (2010) standards for Brand Valuation to establish a financial and behavioural benchmark for the City of Vancouver brand and overall GRDP value. The ISO:10668 standards for Brand Valuation are attached as **Appendix D**.

This benchmark valuation was then used to conduct a sensitivity analysis to determine the financial impact, if any, of an oil spill on the perceptions and behaviours of those stakeholders (business leaders, students, tourists and residents) that generate GRDP and tax revenue within the GVA.

This study did not calculate the potential economic benefit of the proposed Trans Mountain Pipeline Expansion Project (the “TMEP”) to the Vancouver economy as

1 there was insufficient information available to determine economic benefit
2 specific to the GVA.

3
4 This study also did not evaluate the risk of an oil spill in the GVA as such an
5 evaluation is outside the scope of Brand Finance's expertise.

6 7 *Definition of Terms*

8
9 *Nation brand:* In its annual global *Nation Brands Report*, Brand Finance defines
10 a 'Nation brand' as the word mark and trademark iconography associated with a
11 country in combination with all of the country's product and corporate brands.
12 This is consistent with the language used for defining a trademark under
13 ISO:10668 (2010) guidelines.

14
15 *Municipal brand:* Applied in municipal context, a 'Municipal brand' represents the
16 totality of intangible assets connected to the perception of a municipality's image
17 by external stakeholders. It also includes the same associated word and
18 trademark iconography as a Nation Brand but within a smaller geographic locale.

19
20 The brand definition used in this study is the definition for Municipal brand set out
21 above.

22 23 **Q.7. How did Brand Finance establish the benchmark brand value of the** 24 **City of Vancouver brand?**

25
26 A.7. The City of Vancouver brand was valued using a brand strength
27 assessment (the "Brand Strength Index (BSI)"). The BSI is a balanced scorecard
28 framework that was used in this study to determine the overall strength of the
29 brand of a municipality relative to its five other competitor municipalities on the
30 following components of brand strength:

31
32 1. Municipal investment in infrastructure and other municipal
33 assets, programs and services (referred to as "**Brand**
34 **Investment**"). Brand Investment is defined as a collection of
35 recognizable investment activities and policies that inform
36 perceptions of a brand and behaviours, financial and otherwise,
37 toward a brand. Brand Investment is weighted at 25% of the
38 overall BSI score based on Brand Finance's experience in deriving
39 overall brand strength. Brand Investment data was sourced from
40 Oxford Economics, Statistics Canada, Conference Board, OECD,
41 Bloomberg and other publicly available sources.

42
43 2. Perceptual and behavioural equity based on independent
44 market research (referred to as "**Brand Equity**"). Brand Equity is
45 defined as a collection of perceptual and behavioural qualities
46 relating to a brand that inform financial and non financial decision

1 making. Brand Equity is weighed at 50% of the overall Brand
2 Strength score based on historic experience where, in a non-
3 catastrophic environment, perceptions and behaviours toward a
4 brand do not radically change on a year-over-year basis. The Brand
5 Equity data was sourced from the Luth market research study.

6
7 Luth Research is a collaborative approach driven research firm that
8 results in knowledge that drives insights to market-led products and
9 services for companies—and the communities they serve.

10
11 In 2000, Luth launched SurveySavvy.com, the online component to
12 Luth Research, which offers worldwide market research services.
13 Clients range from large multinational corporations to small
14 boutique research firms. SurveySavvy.com has more than three
15 million members.

16
17 Luth Research is based in San Diego and has the 2nd largest
18 respondent panel in North America with a global panel population in
19 excess of 3 million panelists.

- 20
21
22 3. Economic performance of the municipality including, for
23 example, GRDP per capita, crime rate and energy consumption
24 (referred to as “**Brand Performance**”). Brand Performance is
25 defined as a collection of financial (i.e. GRDP/capita) and non-
26 financial (i.e. literacy rates, carbon dioxide emissions, % of
27 population with post secondary education) results that demonstrate
28 the activities of stakeholders that interact with the brand. Brand
29 Performance data was sourced from Oxford Economics, Statistics
30 Canada, Conference Board, OECD, Bloomberg and other publicly
31 available sources.

32
33 The cities that were identified as comparable cities to the City of Vancouver were
34 Hong Kong, San Francisco, Shanghai, Singapore and Sydney. These
35 comparable cities were selected on the basis that they all have the following
36 common qualities:

- 37
38 1. Natural harbours
39 2. Significant air travel
40 3. Recognized education systems
41 4. Business centres
42 5. Shipping industry

43
44
45 Data for the brand value assessment was obtained from the following sources:
46

- 1 1. Oxford Economics
- 2 2. Global City Databank
- 3 3. Publicly available financial statements
- 4 4. OECD (Organization for Economic Co-operation and Development)
- 5 5. Conference Board
- 6 6. City of Vancouver
- 7 7. ktMine (ktMine is one of the leading databases globally of commercial
- 8 royalty agreements.)
- 9 8. Brand Finance's historic databases
- 10 9. Independent market research conducted by Luth Research.

11

12 **Q.8. How was the independent market research conducted?**

13

14 A.8. Luth Research is a San Diego based, independently held market research
15 firm specializing in general public and consumer focused research. The objective
16 of the market research was to determine what perceptions and behaviours the
17 various respondents had toward each of the cities amongst respondents that
18 were familiar with at least two of the cities in the comparative set. The survey
19 was conducted between November 2014 and February 2015. Specific responses
20 were sought from business leaders, tourists and students (the "Stakeholders")
21 who expressed interest in conducting business in, traveling to, or studying in at
22 least two of the six cities.

23

24 Over 1,000 individuals in countries and regions with ready access to Vancouver
25 (i.e. Canada, Western United States, mainland China, select metropolises in Asia
26 and Europe) responded to the survey with a margin of error of 3.5% 19 times out
27 of 20. The respondents were not made aware of which city commissioned the
28 study.

29

30 Each respondent's answers for each city were compared to a common
31 classification of brand equity oriented questions as outlined in the survey
32 attached as **Appendix E**. Some questions were adapted to seek a behavioural
33 response appropriate to each Stakeholder group (business leaders, tourists, or
34 students). The weight of the responses to perceptual questions was then tested
35 using statistical means (r^2) to confirm the importance of the answer to each
36 question attribute based on a financially impactful dependent variable that
37 determined whether there would be a change in financial contribution to the GVA.

38

39 *Example:* For business leaders a unique question was posed as to
40 whether they would invest in the city they were evaluating, for
41 students, whether they would study in the specific city they were
42 evaluating, and for tourists, whether they would travel to the city they
43 were evaluating.

44

45 **Q.9. How were the three components of the Brand Strength Index**
46 **assessed?**

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A.9. For the first component Brand Investment (weighted at 25% of BSI), a number of comparable Brand Investment measures were assessed under six broad categories: economic, healthcare, education, safety, infrastructure and environment. These measures with the results are listed in Table 3. The data for each of these elements was obtained from the sources identified in answer 7 above, excluding market research, and is benchmarked for all six cities. The Brand Investment score for the City of Vancouver is 48 out of 100.

Table 3: Brand Investment scores			Vancouver	San Francisco	Singapore	Sydney	Shanghai	Hong Kong
Brand Investment (inputs) (25%)	Economic	Property taxes	4.98	5.00	1.81	4.99	5.00	1.00
		Tax rates (corporate)	3.30	1.00	4.91	2.70	3.55	5.00
		Government spending (budgets)	1.00	1.40	3.90	4.07	5.00	1.31
	Healthcare	Number of hospital beds per 1000 people	1.05	1.00	1.04	1.18	1.19	5.00
		Number of doctors per 1000 people	1.49	2.37	1.53	5.00	1.00	2.04
		Number of Nurses per 1000 people	4.48	4.53	3.11	5.00	1.00	3.81
	Education	Number of primary education classrooms per 1000 people	4.31	4.28	2.39	5.00	1.00	2.51
		Number of primary education teachers per 1000 people	4.16	4.12	1.81	5.00	1.00	1.95
		Number of secondary school classrooms per 1000 people	3.70	2.99	1.78	5.00	1.00	2.11
		Number of secondary school teachers per 1000 people	3.45	2.61	1.18	5.00	1.00	1.57
		Number of colleges and universities	3.40	3.08	4.84	1.00	4.84	5.00
	Safety	Annual police budget 2014	1.00	1.35	5.00	3.81		2.90
		Number of police officers per 10,000 people	1.16	3.13	1.36	1.00	4.31	5.00
		Number of police stations per 1000 people	1.73	1.84	1.33	4.98	1.00	5.00
	Infrastructure	Number of telephone mainlines	1.00	1.52	1.53	1.55	5.00	3.27
		Infrastructure spending per capita	1.13	1.00	5.00	2.66	3.44	3.16
	Environment	% of area dedicated to parks / greenspace	1.82	2.31	5.00	4.91	1.00	4.46
	TOTAL SCORE / 100			48	48	53	71	41

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The second component, Brand Equity (weighted at 50% of BSI), was assessed using the following categories: overall impression, economic, healthcare, education, safety and security, recreation, social, governance and environment. The data for each of these elements was obtained from the market research data conducted by Luth Research and is benchmarked against the six cities. The results of the Brand Equity assessment are attached as **Appendix F**. The Brand Equity score for the City of Vancouver is 77 out of 100.

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The third component, Brand Performance (weighted at 25% of BSI), was assessed under seven categories: economic, healthcare, education, safety, social, infrastructure, and environment. The measures and results that were used to assess Brand Performance are listed in Table 4. The data for each of these elements was obtained from the sources identified in answer 7 above, excluding the market research, and is benchmarked for all six cities. The Brand Performance score for the City of Vancouver is 59 out of 100.

Table 4: Brand Performance Scores			Vancouver	San Francisco	Singapore	Sydney	Shanghai	Hong Kong
Brand Performance (outputs) (25%)	Economic	Unemployment rate	1.00	2.39	5.00	1.78	3.17	3.87
		Consumer spending per capita	3.35	5.00	2.54	4.27	1.00	2.89
		Average household disposable income	2.12	5.00	3.37	2.94	1.00	3.74
		GDP*	1.00	5.00	3.52	3.71	4.70	3.26
		GDP* / capita	3.00	5.00	3.18	3.89	1.00	2.29
		GDP / Forecasted growth rate	1.00	3.22	2.93	1.81	5.00	2.89
		Total retail sales per capita	3.22	5.00	1.10	3.04	1.00	2.38
		Office employment	3.68	4.73	5.00	4.52	1.00	3.11
		Cost of living	2.90	1.42	1.00	1.15	5.00	2.27
	Healthcare	Life expectancy	4.29	1.00	3.92	3.73	3.21	5.00
		Infant mortality (deaths under 1 year old, per 1000 live births)	1.00	2.26	5.00	1.31	3.52	4.37
		Mortality rates	1.00	1.77	5.00	2.78	4.76	2.18
	Education	% graduated high school	5.00	4.10	1.30	3.75		1.00
		% post secondary	4.87	5.00	2.73	4.99		1.00
		literacy rates	5.00	5.00	2.75	5.00	3.73	1.00
	Safety	Violent crime rate per 100,000	4.16	3.30	5.00	1.00	3.65	4.38
		Overall Crime rate per 100,000	3.44	1.00	4.92	2.49	5.00	4.13
	Social	% of population under age 30	3.08	3.70	2.85	5.00	2.86	1.00
		% of population over 65	1.43	1.83	5.00	1.74	2.87	1.00
		% of working age population (15-64)	2.57	1.59	4.24	1.00	5.00	3.42
		Birth rate (per 1000 people)	1.00	2.89	1.16	5.00	4.44	4.19
		Net migration	1.53	1.13	1.60	1.00	5.00	1.13
	Infrastructure	Number of passenger cars per capita	3.96	3.84	1.52	5.00	1.01	1.00
		Number of mobile phone subscriptions per capita	1.00	2.77	3.13	1.96	2.30	5.00
		Number of internet users divided by the population	5.00	4.67	3.45	4.65	1.00	3.29
	Environment	Energy consumption per US\$ GDP* (L/US\$m)	4.96	5.00	4.23	3.57	1.00	4.61
		Water consumption per person per day (liters)	1.33	1.00	5.00	4.97	3.21	3.91
		Water system leakages (%)	3.44	3.98	5.00	4.31	3.63	1.00
CO2 emissions per person (tonnes/person)		5.00	3.21	4.20	1.00	3.63	4.70	
TOTAL SCORE / 100			58	66	69	63	57	58

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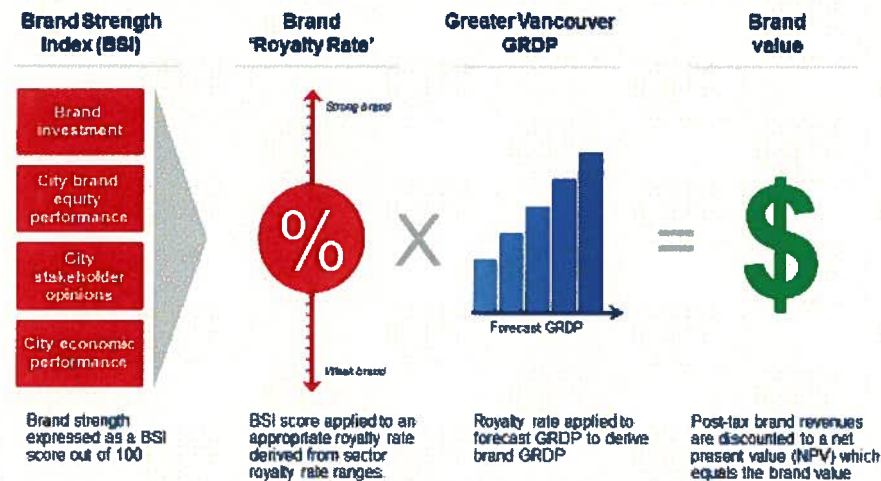
Brand Finance then weighted each of the three BSI components and arrived at an overall Brand Strength Index of 65 out of 100 for the City of Vancouver.

Q.10 How were the Brand Strength Index results used to value the City of Vancouver Brand?

1 A.10 Brand Finance follows the Royalty Relief methodology when valuing
 2 brands. The Royalty Relief methodology can be summarized into a four step
 3 process.
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Royalty relief summary

Brand Finance uses the 'Royalty Relief' methodology to value brands. A derivative of the royalty rate method is applied to determine regional brand value.



8
 9 Step 1 is to estimate future GRDP for Vancouver. Brand Finance used
 10 Conference Board and Oxford Economic forecasts to project GRDP over the next
 11 five years, and into perpetuity.

12
 13 Step 2 is to determine the strength of the brand in question. Brand Finance uses
 14 market research and publicly available data as the basis for the Brand Strength
 15 Index which compares Vancouver against its key competitors.

16
 17 Step 3 is to determine a royalty rate range applicable for Vancouver. The royalty
 18 agreements were sourced by ktMINE.² The data from these agreements was
 19 used to determine the overall brand royalty by industry, as set out in Table 5.
 20 Industry royalty ranges were then adjusted to take into consideration the City
 21 Brand influence on each of the three industry sectors: primary, secondary and
 22 tertiary. Brand Finance applies a 25%, 20%, and 15% "City Brand Influence" to
 23 these ranges for primary, secondary, and tertiary industries respectively (Table
 24 6). For example, in secondary industries, royalty rates for corporations are

² ktMINE is one of the leading databases globally of commercial royalty agreements which contains details of over 30,000 intellectual property agreements.

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typically between 4% and 8%, the “City Brand Influence” is 20% of this range, becoming 0.8% to 1.6%.

Table 5: Royalty Rates by sector

	Agriculture, forestry & fisheries;	Extraction	Manufacturing	Utilities	Construction	Services
	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Min	2.0%	Min 2.0%	2.0%	2.0%	2.0%	2.0%
	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	4.0%	4.0%	Min 4.0%	Min 4.0%	Min 4.0%	4.0%
	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Max	6.0%	Max 6.0%	6.0%	6.0%	6.0%	Min 6.0%
	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
	8.0%	8.0%	Max 8.0%	Max 8.0%	Max 8.0%	8.0%
	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
	10.0%	10.0%	10.0%	10.0%	10.0%	Max 10.0%

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Table 6: Royalty Range for City influence

	City			City			City
	Agriculture, forestry & fisheries;	Extraction	Manufacturing	Utilities	Construction	Services	
% Influence allocation		25%				20%	15%
Min 2.0%	Min 2.0%	0.5%					
			Min 4.0%	Min 4.0%	Min 4.0%	0.8%	

Max 6.0%	Max 6.0%	1.5%					Min 6.0%	0.9%
			Max 8.0%	Max 8.0%	Max 8.0%	1.6%		
							Max 10.0%	1.5%

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Step 4 is to use the Brand Strength Index to place Vancouver within the royalty ranges. As an example, Vancouver’s brand strength score is 65, applying this to the secondary industry range of 0.8% to 1.6%, Vancouver’s effective royalty rate becomes 1.32%.

Brand Finance then applied this brand royalty to the forecast GRDP, explicitly for five years and in perpetuity using long term growth rates (Oxford Economics and Conference Board forecasts) for the GVA and discounted it to January 1, 2015 dollars to determine the brand value of the City of Vancouver brand.

The City of Vancouver brand was valued at \$31 billion as at January 1, 2015, representing 24% of the value of the GRDP of the Greater Vancouver area. A detailed calculation and the royalty rates are attached in **Appendix C**.

Q.11 How was the impact of an oil spill on Brand Value assessed?

As part of the market research conducted by Luth, the respondents to the survey were asked to provide an overall score for each city that they provided responses for. Subsequently, the survey respondents were asked to rate how their overall score for each city would change in the event that there was a small, medium, or major oil spill in the general vicinity of the city.

The size of the spill (small, medium or large) was defined by how easy or difficult it would be to clean the spill and whether there would be a lasting environmental impact or not, using the following descriptions:

- i. The spill would only cause a short-term negative impact on the city, its ecosystem, wildlife, and pollution levels with no major lasting effects on its environment and businesses in the area.
- ii. The spill would need a cleanup that required moderate resources. The result would be minor long term negative impacts on the city, its ecosystem, local businesses, wildlife, and pollution levels.

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- iii. The spill would need a cleanup that required abundant resources. The result would be significant long term negative impacts on the city, its ecosystem, local businesses, wildlife, and pollution levels.

7 The survey results demonstrated that the impact of an oil spill on the City of
8 Vancouver brand was consistent across all Brand Equity measures, as illustrated
9 in Tables 7 to 9.

10
11 *Small Spill*

12
13 A small spill results in an immediate impact to all Brand Equity categories of the
14 City of Vancouver brand. Vancouver maintains leadership, relative to the
15 comparator cities, across Healthcare and Environmental measures, however in
16 an aggressive scenario that leadership is lost. A score of five indicate absolute
17 leadership in the category relative to the other competitive cities based on
18 perceptions. A score of one indicates the brand perception is the worst among
19 the competitor cities.
20

Table 7: Equity impairment with a small spill		Vancouver baseline	Conservative	Mid	Aggressive
Equity (50%)	Overall Impressions	4.58	4.05	3.88	3.60
	Economic	3.28	2.48	2.34	2.11
	Healthcare	5.00	5.00	5.00	4.66
	Education	4.36	3.35	3.09	2.67
	Safety and Security	5.00	4.10	3.87	3.49
	Infrastructure	3.31	2.11	1.81	1.41
	Recreation	3.70	3.03	2.88	2.70
	Social	4.27	3.70	3.53	3.29
	Governance	4.45	4.19	4.03	3.78
	Environment	5.00	5.00	5.00	4.95

Score (/100)	77	63	59	55
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Medium Spill

A medium spill results in an immediate and much more rapid impact to all Brand Equity categories of the City of Vancouver brand. Vancouver loses its relative leadership across Healthcare and Environmental measures even under a conservative assessment, however under an aggressive assessment Vancouver drops to last on some measures.

Table 8: Equity impairment with a medium spill		Vancouver baseline	Conservative	Mid	Aggressive
Equity (50%)	Overall Impressions	4.58	3.71	3.43	2.90
	Economic	3.28	2.20	2.03	1.83
	Healthcare	5.00	4.85	4.42	3.70
	Education	4.36	2.84	2.49	2.02
	Safety and Security	5.00	3.65	3.31	2.74
	Infrastructure	3.31	1.53	1.25	1.00
	Recreation	3.70	2.76	2.62	2.43
	Social	4.27	3.40	3.15	2.74
	Governance	4.45	3.88	3.65	3.26
	Environment	5.00	4.99	4.87	4.51
Score (/100)		77	57	52	47

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Large Spill

1 A large spill results in a significant impairment to the Brand Equity categories of
 2 the City of Vancouver brand. Vancouver risks losing more than half of its brand
 3 equity under an aggressive assessment.
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Table 9: Equity impairment with a large spill		Vancouver baseline	Conservative	Mid	Aggressive
Equity (50%)	Overall Impressions	4.58	2.94	2.46	1.99
	Economic	3.28	1.85	1.67	1.50
	Healthcare	5.00	3.76	3.06	1.89
	Education	4.36	2.06	1.74	1.38
	Safety and Security	5.00	2.79	2.24	1.32
	Infrastructure	3.31	1.02	1.00	1.00
	Recreation	3.70	2.44	2.25	1.94
	Social	4.27	2.77	2.37	1.71
	Governance	4.45	3.29	2.91	2.28
	Environment	5.00	4.54	4.11	3.39
	Score (/100)	77	47	42	35

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 9 Using these Brand Equity scores, Brand Finance then recalculated the BSI for
 10 the City of Vancouver brand and the results of that calculation are summarized in
 11 Table 10.
 12

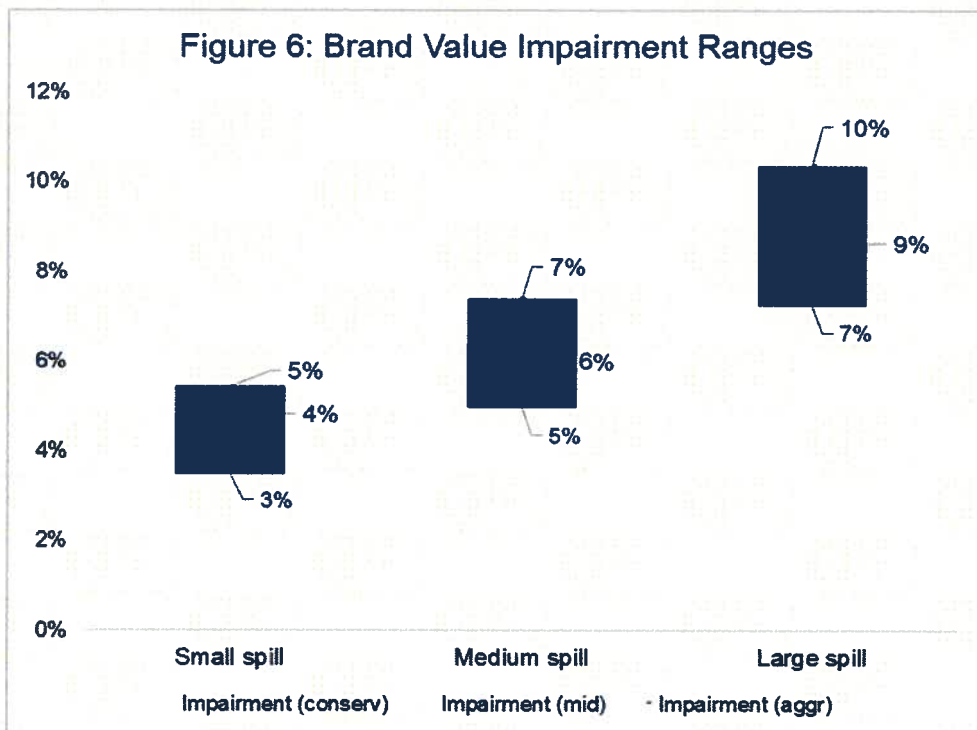
Table 10: Overall Brand Strength impairment under various oil spill scenarios				
Small Spill – BSI score changes				
Vancouver baseline	Conservative	Mid Level	Aggressive	

65	56	55	53
Medium Spill – BSI score changes			
Vancouver baseline	Conservative	Mid Level	Aggressive
65	53	52	49
Large Spill – BSI score changes			
Vancouver baseline	Conservative	Mid Level	Aggressive
65	49	46	43

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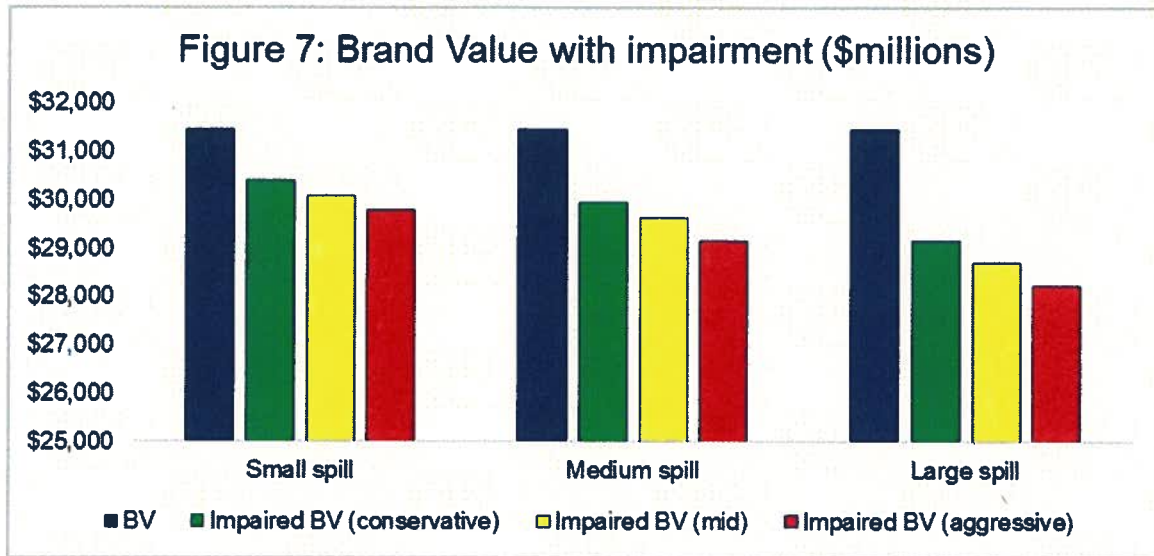
Brand Finance was then able to apply its Royalty Relief Methodology using the new BSI scores for the small, medium and large spill scenarios to determine the impact on the City of Vancouver’s Brand Value.

Applying the above valuation, Brand Finance concluded that the value of the City of Vancouver brand would be at risk should an oil spill occur. The impairment on the brand value is between \$1 billion to \$1.7 billion in a conservative assessment; \$1.5 billion to \$2.3 billion in a mid-level assessment; and \$2.3 billion to \$3 billion in an aggressive assessment. The estimated economic impact is demonstrated in Figure 6 and Figure 7. A detailed calculation of the mid-level assessments can be found in **Appendix G**.



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The financial impact demonstrated in these graphs indicates the financial impact in the event of an oil spill. It does not, in any way, reflect the likelihood of any of the three sizes of oil spill occurring in any of the six cities for which this exercise was conducted. Brand Finance was not provided any data to evaluate the likelihood of a spill happening.

The Brand Value impact of the oil spill did not include any change in GRDP that may result in the event of an oil spill and Brand Finance had insufficient data to predict this. The Brand Value assessment also did not include the GRDP uplift of constructing and operating a new pipeline. Oxford Economics forecasts did not include this uplift, and Brand Finance had insufficient data to predict this.

**APPENDIX A TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Detailed Resume for Edgar Baum

APPENDIX A: Detailed Resume for Edgar Baum

Edgar Baum

Managing Director, Brand Finance North America

Professional Profile	Edgar is a leading North American practitioner, thinker, and lecturer in the area of brand measurement and brand valuation. He sits on both global and American standards bodies formulating best practices for brand driven organizations around the world. Edgar leads Brand Finance's North American operations based in Toronto, Ontario, Canada
Relevant client list	<p>Cirque du Soleil – Brand Valuation for co-branding (2014) Oxford Properties – Brand Valuation for multi-market strategy (2014) Canadian Tire – Brand Valuation (2013-2014) Holcim Group - Transfer Pricing Royalty Rate model (2012-2014) Government of Canada – Strategic Communication Plan for Canada (2012) SickKids –Brand Valuation for Strategy and partnerships (2012) Manulife Financial – Brand Valuation benchmarking, global market opportunities, competitive assessment (2011-2012)</p>
Experience	<p>2015 – Present Lecturer, University of Toronto, School of Continuing Studies - Co-developer of post-Graduate course on Brand Measurement as part of University of Toronto's Brand Management certificate program</p> <p>2013 – Present Vice-Chair, ISO/TC 289, on behalf of Standards Council of Canada - Canadian representative and global co-chair for new ISO global program for non-financial brand measurement standards to complement ISO 10668 standards for Brand Valuation</p> <p>2012 – Present Advisor, The MASB, Intangible Financial Reporting - Advisor at The MASB (Marketing Accountability Standards Board for the US), developing and advising on reporting standards for brands and other intangibles</p> <p>2011 – Present Brand Finance North America – Managing Director - Edgar is responsible for the delivery Brand Finance's expertise in Brand Valuation, Strategic Modeling, and Brand Scorecards</p> <p>2010 – 2011 Obsidian Corp – Founder - Financial and Data Analytics company focused on corporate controllership and data analytics</p> <p>2006 – 2010 RK Global Consultants Inc – Vice-President, Partner - Boutique credit risk consulting firm focused at comprehensive corporate and commercial financing services. Focus was on risk analysis, export financing, trade financing, equity, and M&A</p> <p>2005 – 2009 BizCredit Holdings Inc. – Co-founder, Lead Product Developer - Start up banking software company focused on international credit risk analysis and forecasting</p> <p>2003 – 2005 Procter & Gamble Canada – Finance Specialist - Responsible for development of numerous, original, KPI models using market research correlated to financial performance</p>
Education	BA, University of Toronto Canadian Securities Course
Select publications & speaking engagements	<ul style="list-style-type: none"> - Contributing Writer, Brand Finance Journal, BrandFinance® 2012 Banking 500 - Contributing Writer, BrandFinance® Global 500 Report, 2012 - Publisher & Writer, Brand Finance Journal, Canadian 2012 Top 50 Brands Report

- Guest Speaker, Praxity Independent Accountants Conference, Brand Valuation for Co-branded transactions
- Guest Lecturer, Hult Business School, Brand Valuation for MBA program
- Guest Lecturer, Seneca at York, Privacy protocols in M&A transactions for Masters in Communications
- Guest Lecturer, Northwestern University, Brand Valuations for Masters in Communications Course
- Guest Speaker, York University, Sports Brand Valuation
- Guest Speaker, NYU – Stern, Future of Brand Valuation
- Guest Speaker, Queen's University, Brand Valuation as a Management Tool
- Guest Speaker, Rotman School of Business, Economic Value of Brand

Numerous media interviews with media organizations such as CBC, BNN, Bloomberg, The Globe and Mail, Financial Post, Journal de Montreal, TVA, Montreal Gazette, Huffington Post Canada, Toronto Star.

Edgar has also been interviewed on numerous occasions for regional and national radio stations on the importance of branding for Canadian organizations.

**APPENDIX B TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Detailed Resume for Bryn Anderson

APPENDIX B: Detailed Resume for Bryn Anderson

Bryn Anderson
Senior Valuation Director, COO Brand Finance plc

<p>Professional Profile</p>	<p>Bryn has over 12 years of financial experience as a valuator and manages international valuation projects across a range of industries, including government IT, financial services, retail and apparel and NFP sector.</p> <p>He has worked on valuations for IFRS 3 compliance, tax planning, expert witness, value-based marketing and securitisation purposes. He also directs research into intangible asset values on global stock market indices.</p> <p>Bryn is responsible for the technical delivery of Brand Finance’s annual Nation Branding and regional branding reports and initiatives as well as the Global Intangible Financial Tracker, GIFT™, which tracks intangible asset contribution to businesses globally.</p>
<p>Relevant client list</p>	<p>Govt. of United Kingdom – GREAT Britain Brand Valuation (2013-2014) SickKids – Brand Valuation (2012) LCBO – Market Assessment, Brand Valuation, and Strategic modeling (2010) Brand South Africa – Economic Assessment (2010) AVIVA – International Brand Valuation (2011) Investors in People (UK Government Agency) – Environmental Assessment and strategy implementation for identifying talent requirements (2010-2012) City of Seoul – Brand Valuation – (2010)</p>
<p>Experience</p>	<p>2005 – Present Brand Finance plc – Valuation Director, COO</p> <ul style="list-style-type: none"> - Bryn has vast international experience from working on brand valuation projects in the UK, Spain, Sri Lanka, and Toronto, Canada where he worked on dynamic scenario valuation projects in the food & beverage, and media sectors. - Bryn has worked on valuations for IFRS 3 compliance, tax planning, expert witness, value-based marketing and securitisation purposes. He also directs Brand Finance’s research into intangible asset values on global stock market indices <p>2002 – 2005 Pacific Retail Group – Business Analyst</p> <ul style="list-style-type: none"> - Analyst for the corporate division of a regional retailer reporting directly to the Financial Controller
<p>Education</p>	<p>Business and E-Commerce at Massey University Diploma in Information Technology Qualified Chartered Accountant (ACA)</p>
<p>Industry Involvement (publications & speaking engagements)</p>	<p>Contributing Writer, Brand Finance Journal, BrandFinance® Global 500, BrandFinance® Banking 500, Nation Brand 500</p> <p>Bryn has been interviewed by CNN, BBC, Marketing Week and Toronto Star.</p>

**APPENDIX C TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Detailed Valuation of the City of Vancouver brand

Appendix C: Baseline valuation model, figures in \$millions

Brand Valuation - Agriculture (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP		324	342	367	398	437	481			
Royalty Rate	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%			
Royalty Income	0	4	4	4	5	5	6			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(1)	(1)	(1)	(1)	(1)	(1)			
Royalty Income After Tax	0	3	3	3	3	4	4			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			2.87	2.85	2.87	2.91	2.96	14	73	67
Brand Valuation - Industry (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	21,274	21,404	22,185	23,329	24,757	26,242			
Royalty Rate	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	281	282	293	308	327	346			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(74)	(75)	(78)	(82)	(87)	(92)			
Royalty Income After Tax	0	206	208	215	226	240	254			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			206.42	198.07	192.81	189.42	185.87	973	4554	5527
Brand Valuation - Transport, storage, information & comm services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	12,740	12,647	12,908	13,370	13,969	14,666			
Royalty Rate	8.6%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	164	163	166	172	180	189			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(44)	(43)	(44)	(46)	(48)	(50)			
Royalty Income After Tax	0	121	120	122	127	132	139			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			119.21	112.63	108.00	104.47	101.53	546	2488	3033
Brand Valuation - Financial & business services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	43,653	43,634	44,835	46,783	49,272	52,168			
Royalty Rate	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	563	563	578	603	635	673			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(149)	(149)	(153)	(160)	(168)	(178)			
Royalty Income After Tax	0	414	414	425	443	467	494			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			411.29	391.23	377.91	368.47	361.16	1910	8849	10759
Brand Valuation - Consumer services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	17,610	17,563	18,054	18,797	19,689	20,786			
Royalty Rate	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	227	226	233	242	254	268			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(60)	(60)	(62)	(64)	(67)	(71)			
Royalty Income After Tax	0	167	166	171	178	187	197			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			165.54	157.54	151.64	147.24	143.90	766	3626	4292
Brand Valuation - Public services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	21,229	21,111	21,564	22,379	23,460	24,692			
Royalty Rate	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	274	272	278	289	303	316			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(73)	(72)	(74)	(78)	(80)	(84)			
Royalty Income After Tax	0	201	200	204	212	222	234			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			198.99	186.17	180.78	175.44	170.94	914	4188	5103
Brand Valuation - Other (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	10,877	10,867	11,170	11,654	12,267	12,965			
Royalty Rate	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%			
Royalty Income	0	140	140	144	150	158	167			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(37)	(37)	(38)	(40)	(42)	(44)			
Royalty Income After Tax	0	103	103	106	110	116	123			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			102.43	97.47	94.14	91.73	89.76	476	2199	2675
Total Brand Value								5699	25676	31,475

		Cost of Equity				Cost of Debt				WACC Rate				
	Perpetuity	Brand Index	Risk Free Rate (Country)	Equity Risk Premium (Country)	Brand Beta	Risk Free Rate	Brand Rating	Brand Risk Premium	Tax Rate (Country)	Proportion of Debt Funding	Cost of Equity	Cost of Debt	Discount Rate	
Canada	Vancouver	3.8%	65	1.8%	8.9%	1.0		AA-	2.3%	26.5%	30%	11%	1.7%	8.0%

Assumptions/Results

Discount Rate

8.0%

Royalty Rate Primary
 Royalty Rate Secondary
 Royalty Rate Tertiary

	City Brand + City Product & Corporate Brands (Total GRDP)	City Brand only ('City Name' word mark and trademark iconography)
Royalty Rate Primary	4.60%	1.15%
Royalty Rate Secondary	6.60%	1.32%
Royalty Rate Tertiary	8.60%	1.29%

Long Term Growth Rate
 Tax Rate

3.8%
 27%

	Explicit	Perpetuity	Total
Brand Value (\$USD m) (City Brand only)	5599	25876	31475
Agriculture	14	73	87
Industry	973	4554	5527
Transport, storage, information & comm services	546	2488	3033
Financial & business services	1910	8849	10759
Consumer services	766	3526	4292
Public services	914	4188	5103
Other	476	2199	2675
PRIMARY	14	73	87
SECONDARY	973	4554	5527
TERTIARY	4612	21250	25861

**APPENDIX D TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

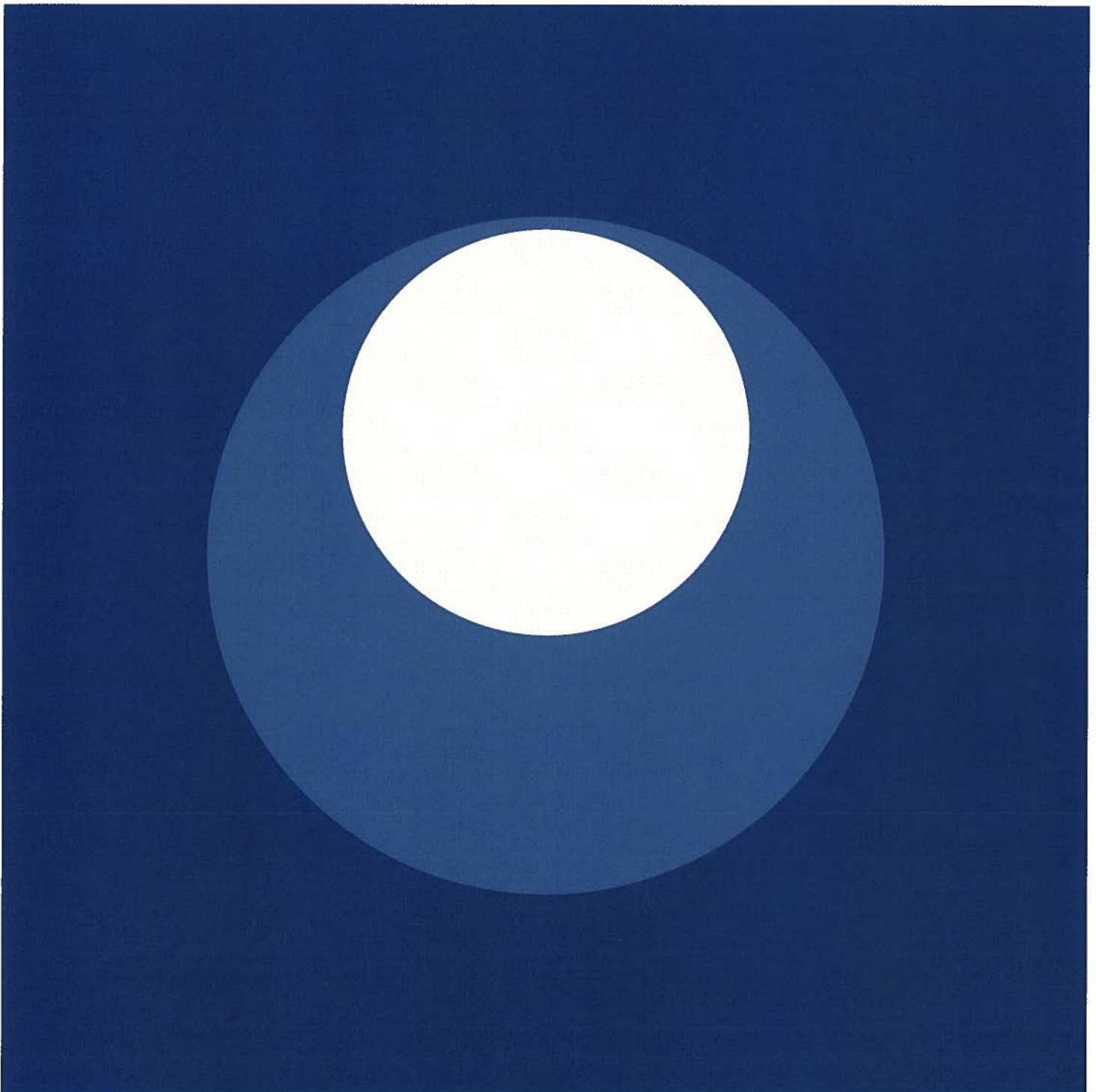
ISO Standards for Brand Valuation



Overview of ISO 10668: Brand Valuation

Requirements for Monetary Brand Valuation

10 August 2011



ISO 10668

BRAND VALUATION



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	05	Step 1: Definition of the Brand that has been Valued
	05	Step 2: Purpose of the Valuation
	05	Step 3: Premise of Value
	06	Step 4: Selection of the Valuation Approach and Method
	07	Step 5: Assumptions and Analysis
	09	Step 6: Valuation Report
	10	PART 2 Views on the Relevance of the Brand Valuation Standard
	12	PART 3 Applications of Brand Valuation
	14	Australian Marketing Institute
	15	Brand Finance

*Copies of the Standard may be purchased from Standards Australia
www.standards.org.au*

ISO 10668

BRAND VALUATION



Introduction from the Australian Marketing Institute

Brands have long been recognised inside the marketing profession as important intangible assets. Brands can confer considerable advantages, such as building customer loyalty and enabling a price premium for the branded product. As such, the valuation of brands is an important function, to provide tangible, financial evidence of their status as assets.

The Australian Marketing Institute's involvement in the promotion of the role and value of brands is central to its overall aim of the promotion of marketing. Thus, when the ISO established a brand valuation Working Party, the Institute was pleased to accept an invitation from Standards Australia to nominate an Australian representative, then-Institute Chairman Roger James. The Working Party comprised representatives from a number of nations, principally European, with Japan and Australia being the non-European nations represented.

The Working Party met initially in March 2007, and convened on a further six occasions to advance and finalise the Standard. The foundation document on which the Standard was based was a draft document prepared by the German Standards Institute, DIN.

The Australian Marketing Institute looks to Australian businesses to adopt the Standard, both as a means of validating their own brand valuation activities and also to promote the wider adoption of brand valuation itself.

ISO 10668

BRAND VALUATION

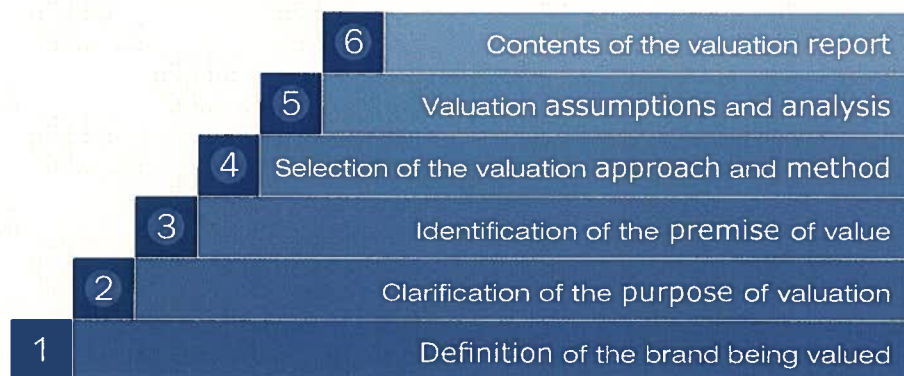


PART 1

Overview of ISO 10668: Brand Valuation

The introduction to ISO 10668 states that: "Intangible assets are recognised as highly valued properties. Arguably the most valuable but least understood intangible assets are brands." The purpose of the Standard is to provide a consistent and reliable approach to brand valuation. To this end it specifies requirements and procedures regarding valuation methodologies, sources of information, and reporting requirements.

Although not dealt with in this particular sequence, the Standard provides guidance for the each of the key steps in a valuation.



ISO 10668

BRAND VALUATION

1

Definition of the Brand that has been Valued

The term 'brand' is defined in the Standard as a marketing-related intangible asset that may include names, terms, and logos that are intended to identify goods and create distinctive images and associations in the minds of stakeholders, thereby creating economic benefits for the owner.

A more specific description is required in a valuation report; this must clearly identify and describe the specific legal rights that are the subject of the valuation. The need for clarity is heightened by different uses of the term 'brand'; in some instances it refers to a trade mark, on other occasions it refers to a bundle of intellectual property such as recipes, formulations and design rights, in addition to trade marks.

2

Purpose of the Valuation

Brand valuations can be carried out for a wide range of purposes including strategic planning, financial reporting, dispute resolution, and pre-acquisition due diligence. It is important that the valuer declares the purpose of the valuation and the audiences to whom the report is addressed. The purpose of the valuation can influence the premise of value and the scope of the report.

3

Premise of Value

The Standard defines the premise of value as "the assumption regarding the most likely set of circumstances that can be applicable to the subject valuation." Value is in the eye of the beholder, so it is essential to determine whether an asset is to be valued from the perspective of a typical purchaser (market value), a specific purchaser (investment value), or an unwilling seller (liquidation value). In most commercial situations market value is the appropriate premise.

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BRAND VALUATION

4 Selection of the valuation approach and method

The Standard gives the valuer the opportunity to select from a range of valuation approaches and methods. There are three valuation approaches: the Income Approach, Market Approach, and Cost Approach. Within each approach there are several possible methods. It is necessary for a valuer to have broad experience of the available valuation methods. The purpose of the valuation, characteristics of the brand and market, and availability of data will influence the selection of the most appropriate method for a specific valuation.

Income Approach

The income approach values a brand as the present value of the future earnings that it is expected to generate over its remaining useful economic life. This is a commonly used approach to value businesses and other assets. Specific assumptions that require research and analysis include the brand's current cash flows, forecast growth, the risk associated with future earnings, the brand's useful economic life, and tax considerations.

The Standard lists the following income based methods of determining the cash flow attributable to a brand.

- **Price and volume premium methods:** Estimate the value of a brand by reference to the price premium and/ or volume premium that it generates. In situations where a brand yields both a profit and volume premium, both methods should be applied. Consideration should also be given to cost efficiencies resulting from the brand.
- **Income-split method:** Values the brand as the present value of the portion of economic profit attributable to the brand. Behavioural research is used to determine the brand's contribution to economic profit.
- **Multi-period excess earnings method:** Values the brand as the present value of the future residual cash flow after deducting returns for all other assets required to operate the business.
- **Incremental cash flow method:** Identifies the cash flow generated by a brand in a business through comparison with a comparable business which does not own a brand.
- **Royalty relief method:** Measures the value of the brand as the present value of notional future royalty payments, assuming that the brand is not owned but licensed. This method is widely used for financial reporting and tax valuations as it is aligned with the commercial practice of licensing brands.

ISO 10668

BRAND VALUATION

Market Approach

The market, or sales comparison approach, measures value in comparison with transactions, for similar brands. This approach requires a detailed evaluation of the comparability of the two brands, considering factors such as the markets in which they operate, relative brand strength, legal protection, and the economic outlook at the times of the transactions. Account has to be taken of the fact that the price negotiated in a transaction may reflect strategic values and synergies that are not available to the present owner.

Cost Approach

This approach measures the value of a brand based on the cost invested in building the brand, or its replacement or reproduction cost. It is based on the premise that a prudent investor would not pay more for a brand than the cost to replace or reproduce it.

5

Assumptions and Analysis

The Standard's general requirements specify that a valuation must:

- use valid inputs and sufficient data;
- take account of financial, behavioural, and legal parameters;
- be based on assumptions and conclusions that are objective and reliable.

Additionally, a brand valuation requires a range of specific inputs and assumptions that are summarised overleaf.

ISO 10668

BRAND VALUATION

Market and financial data

In order to gauge the current performance of the subject brand, the appraisal should carry out an analytical review of the current and forecast size of the market. Although not explicitly stated in the Standard, it is often necessary to separately evaluate all key market segments in which the brand operates, in order to take account of differences in competitive forces and market trends.

Financial data referred to in the Standard includes the discount rate, tax, long term growth rates and the useful economic life of the brand. The information requirements vary depending upon the valuation approach and method that have been selected.

Behavioural aspects of the brand

The Standard uses the term 'behavioural' to describe the attitudes and behaviour of consumers and other business stakeholders. It states that "the valuation of a brand shall directly address the ways in which a brand generates value and shall consider all economic benefits that can be derived from the brand's functions in the context of the branded business". All valuation approaches require an evaluation of brand strength, the effect of the brand on demand, and the position of the brand in its key markets.

Legal rights attached to the brand

Legal protection is important as it permits the brand owner to use formal legal systems to prevent third parties from exploiting the brand, thereby providing exclusivity. An assessment of the legal protection available to the brand includes an analysis of all legal rights included in the definition of the subject brand, confirmation of their ownership, and consideration of legal parameters such as distinctiveness, extent of use and notoriety.

In general, the most important form of legal protection will be registered trade marks. However, common law rights and copyright might protect certain aspects of a brand.

Legal rights have to be considered in all jurisdictions where the brand generates significant cash flow.

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BRAND VALUATION

The Standard provides a check list of fourteen matters that must be disclosed in every valuation report, In addition to the six steps illustrated on page 4, these include:

- position and status of the appraiser;
- the audience to whom the report is addressed;
- the date of the report and date at which the brand has been valued;
- data sources used;
- limitations to the scope of the valuation.

In Australia, valuation reports must also comply with APES 225 Business Valuation, issued by the Accounting Professional and Ethical Standards Board.

ISO 10668

BRAND VALUATION



PART 2

Views on the Relevance of the Brand Valuation Standard

Professor John Roberts

Professor John Roberts holds a joint appointment as Professor of Marketing at the Australian National University and London Business School, and is an Emeritus Scientia Professor at the University of New South Wales.

We live in an era where managements are held accountable for the stakeholder returns on the investment of resources they make. From the input and production side are the ISO Standards that have achieved considerable currency for shareholders, managers and employees, consumers, and regulatory agencies. From the financial returns side, accounting standards are being refined and globally harmonised by global GAAP, IFRS and other processes. It therefore seems sensible that another important part of the value chain, the firm's customer facing activities (in terms of researching and meeting their needs) should also be capable of, and subject to, systematic evaluation. And, indeed, they should.

Academic research shows us that strong market based assets (including brands, customer bases and collaborative relationships) are predictors of market capitalisation growth of the firm. What a respected method of calibrating brand value does for us is provide the building blocks by which this aggregate level analysis can be undertaken by individual firms. Without this, a CEO knows that strong brands are good on average but cannot work out whether her brand building activities are too meagre, excessive, or just right.

Many marketing managers complain that marketing expenditure is regarded as a cost not an investment. In accounting terms, it is expensed in the period in which it is incurred, while in management planning terms, the long term pay offs of marketing and brand building are heavily discounted relative to their current costs. A widely accepted, reliable metric of brand value, based on the future earning potential of the brand, is a prerequisite to changing these attitudes. Many other benefits also follow. With businesses using the same approach, such metrics become a common currency across businesses, allowing performance benchmarking. Such measures also help marketers manage more finely and more accurately inform external stakeholders.

The ISO provides a useful start. It has identified the issues involved and catalogued methodologies by which they can be addressed. This Standard will help the marketing activity achieve its rightful position in terms of performance accountability, between the production insights of ISO quality standards and the results insights from AFRS/GAAP accounting standards.

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BRAND VALUATION

Tim Heberden

Tim Heberden is Australian Managing Director of Brand Finance PLC, which specialises in the valuation of brands and other intangible assets. He lectures on the evaluation of marketing performance at the University of Sydney's Master of Marketing.

Brand valuation came to the fore in the late 1980's when corporate raiders exposed the gap between the market value and balance sheet value of many companies. Since then, two distinct user groups have emerged. The financial community frequently values brands for the purposes of financial reporting, M&A planning and tax compliance. On the other hand, marketers use valuation techniques for brand architecture, budget setting and performance tracking.

The required output of brand valuations carried out for financial and marketing purposes is somewhat different. When a brand is valued for tax or balance sheet reasons, the focus is on the dollar output. The findings have to be robust, and this necessitates well supported assumptions and the use of the most appropriate valuation methodology. Brand valuations carried out for marketing purposes require a broader array of outputs. The dollar output is balanced by measures of brand equity and competitive performance. Segmentation of the findings by channel, region or customer type helps identify opportunities for adding brand value. Marketers require robust valuations, but are usually more interested in relative value (between market segments or scenarios) than a single, static value.

The financial community was the first to develop standards for the valuation of intangible assets – of which brands are a sub-set. Since 2005 international accounting standards have required acquired intangible assets (including brands) to be disclosed on balance sheets. International Valuation Standards released a guidance note on the valuation of intangible assets in 2007 and now has a standard on the topic.

Does ISO 10668 add anything to existing valuation standards?

The answer is 'yes'. ISO is the first standard dealing exclusively with brands, and targeted at a broader audience than the valuation community. An important development is the requirement to integrate market research, legal and financial analysis. This recognises that it is not possible to gauge a brand's demand contribution without considering attitudinal and behavioural metrics. Similarly, the available legal rights influence the risk associated with brand earnings.

At present, valuations carried out for financial purposes sometimes fail to incorporate analysis of attitudinal and behavioural measures, while valuations carried out for marketing purposes do not always adhere to valuation best practice. The ISO standard will help merge the two distinct brand valuation silos. This will result in more valuations being robust, insightful, and balanced.

In organisations that are not yet aware of the benefits of brand valuation, the credibility of the ISO makes it easier for marketers to gain the support of the CEO and CFO. Additionally, the new ISO standard provides marketers with sufficient background information to brief a brand valuation, and vet the quality of a valuation report. A good start is to ensure that your valuer is certified to produce ISO compliant brand valuations.

ISO 10668

BRAND VALUATION



PART 3 Applications of Brand Valuation

In isolation, the dollar value of a brand is of limited use to a marketer. It helps communicate the economic importance of the brand to internal stakeholders, but provides few clues to marketing strategy. The good news is that a well-constructed brand valuation yields a range of metrics, and when these are viewed together they provide great insight into the opportunities and threats in key market segments. These metrics include:

- Market conditions and competitive forces.
- An analysis of the strength of the brand relative to key competitors.
- Expected market and brand growth rates.
- Quantification of brand risk.
- Brand value expressed as a percentage of enterprise value.

Much of this information already exists in many marketing departments, however, brand valuation integrates it into a consistent and coherent set of metrics that form a platform for strategy development and performance evaluation. Some common marketing applications of brand valuation are listed below.

Budget setting

As with other assets, it is hard to know how much to invest in a brand without understanding its current worth, and whether value will be added, or eroded, by alternative levels of investment. Even in organisations where the brand is acknowledged as a key asset, the marketing budget can be vulnerable in the absence of a robust business case.

Resource allocation

Which region, channel, product, or customer segment should get the next dollar of marketing budget? There is no better way of answering the question than gauging the brand value implications within each segment.

Scenario valuations

Scenario valuations allow marketers to forecast the impact of different strategies on brand value – thereby stripping out the usual subjective arguments that accompany strategy determination. At the outset it is often unclear which strategy will yield the best result. Once market trends, consumer research and financial information have been integrated into a valuation model the choice usually becomes clear.

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BRAND VALUATION

Brand architecture

Brand architecture dilemmas are a common reason for organisations to undertake a brand valuation. The underlying issue can be:

- a swollen portfolio of brands resulting from mergers and acquisitions;
- the intention to extend a strong brand into new product categories;
- concern that the existing brand lacks relevance in new product segments.

Views on the benefits of new brands, sub-brands, umbrella brands and brand termination are often strongly held - and polarising. The use of brand valuation models avoids subjective arguments by integrating market research into a framework that places a value on each option.

Reputation risk management

The fine print of branding says that value can go down as well as up. Risk management procedures should identify events that could erode the value of brands and corporate reputation. It is then possible to develop responses that mitigate the risk.

Marketing dashboards

A brand value framework highlights the measures that matter, and prevents dashboards being a random collection of measures. Value-based dashboards enable marketers to focus on the best opportunities, allocate budgets to activities that have the greatest impact, measure the results, and articulate the return on brand investment.

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BRAND VALUATION



Australian Marketing Institute

The Australian Marketing Institute's record of service to the marketing profession goes all the way back to our origin in 1933. Over the intervening years we have continually evolved to meet the changing needs of marketers, delivering services to help members maximise their professional growth.

Today the Institute represents professional marketers throughout Australia, including practitioners from all marketing functions and industries. Through our unified voice, the Institute has established strong links with business, academia and government to become the voice of the marketing profession.

The Institute's leadership role in advancing the marketing profession has resulted in the emergence of Certified Practising Marketer (CPM) accreditation as a practising benchmark, the establishment of a Code of Professional Conduct, and the move towards defined practising standards for marketers and marketing metrics for organisations.

Members guide the policy and priorities of the Institute through elected State Councils and a National Board of Directors, ensuring representation for every state at the national level. Councils in each state conduct events on topics of local interest to augment national programs.



ISO 10668

BRAND VALUATION



Brand Finance

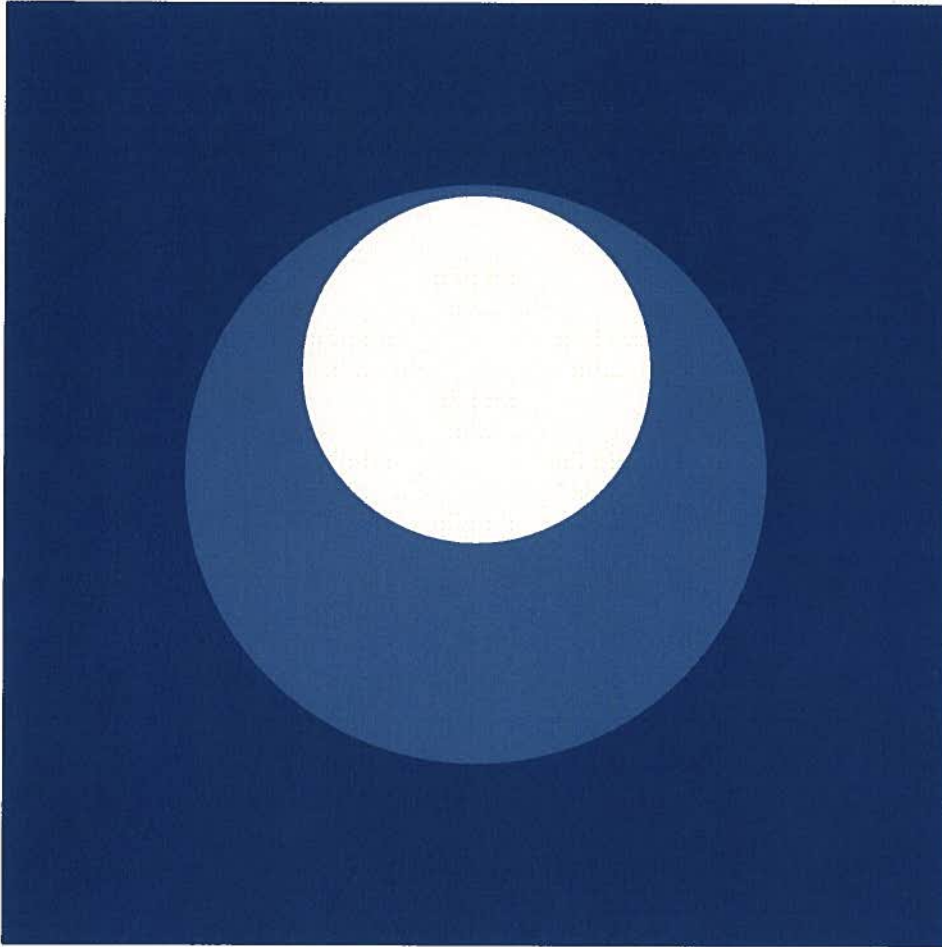
Brand Finance operates in sixteen countries, and is a global leader in the valuation of brands. We are one of the few companies certified to produce ISO compliant brand valuations.

Brand Finance is entirely focused on valuing - and adding value to - brands and other intangible assets. Within this specialist field, we offer a range of services:

- **Valuation:** International leader in the field of intangible asset valuation for financial reporting, tax and litigation.
- **Analytics and Strategy:** We help organisations select the marketing strategy that generates the most value. Brand Finance evaluates strategic options, tracks marketing performance and articulates the return on marketing investment.
- **Transactions:** Brand Finance's brand due diligence and licensing advice enables clients to leverage the value of intellectual property through transactions, licenses and structuring.

These services complement and support each other, resulting in an in-depth understanding of intangible assets from financial, consumer and commercial perspectives.





This overview of ISO 10668: Brand Valuation
has been prepared on behalf of the Australian Marketing Institute
by Tim Heberden, Managing Director, Brand Finance



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**APPENDIX E TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Luth Research Questionnaire

**Luth Research | Brand Finance | Vancouver Economic Commission
Vancouver Business Branding Questionnaire**

BUSINESS OBJECTIVES

- To assess the perception and value of Vancouver’s brand globally, with particular reference to its key sectors and target markets for investment and talent: USA, UK, China, Japan, Korea, Taiwan
- To assess Vancouver’s relative business strengths and weaknesses to facilitate the positioning of Vancouver as a globally recognized city for innovative, creative, and sustainable business
- To understand Vancouver’s unique value proposition for its key sectors in relation to its peer cities (e.g. Hong Kong, San Francisco, Shanghai, Singapore, Sydney)
- To establish a reasoned, comprehensive and defensible estimate of the value of Vancouver’s city brand (including the contribution from businesses)
- To assess the impact of the proposed Kinder Morgan pipeline expansion and associated tanker traffic to Vancouver’s brand and its business brand
- To identify the impact of an oil spill in the Burrard Inlet on Vancouver brand

QUOTAS AND SCREENING CRITERIA

QUOTAS BY GEOGRAPHY:

	N=1100 Total			
	Business Leaders	Tourists	College Students	Vancouver Residents
Sample Size	N=500	N=250	N=250	N=100
Minimums	N=30 per Geog.	N=30 per Geog.	N=30 per Geog.	N/A
Maximums	N=100 per Geog.	N=55 per Geog.*	N=50 per Geog.	N/A
Geography	<ul style="list-style-type: none"> • Vancouver • Rest of Canada • US • Asia-Pacific • Mainland China • Europe 	<ul style="list-style-type: none"> • Rest of Canada • US • Asia-Pacific • Mainland China • Europe 	<ul style="list-style-type: none"> • Vancouver • Rest of Canada • US • Asia-Pacific • Mainland China 	<ul style="list-style-type: none"> • Vancouver
Top Priority Cities	<ul style="list-style-type: none"> • Vancouver • Toronto • Calgary • Montreal • Los Angeles • San Francisco • Seattle • Hong Kong • Seoul • Taipei • Beijing • Shanghai • London 	<ul style="list-style-type: none"> • Toronto • Calgary • Montreal • Los Angeles • San Francisco • Seattle • Hong Kong • Seoul • Taipei • Beijing • Shanghai • London 	<ul style="list-style-type: none"> • Vancouver • Toronto • Calgary • Montreal • Los Angeles • San Francisco • Seattle • Hong Kong • Seoul • Taipei • Beijing • Shanghai 	<ul style="list-style-type: none"> • Vancouver

* All geographies except Europe, where both the minimum and the maximum are N=30

QUOTAS BY COMPETITOR CITY*:

	N=1000 Total					
	Vancouver	Hong Kong	San Francisco	Shanghai	Singapore	Sydney
Minimums	N=1000	N=100	N=100	N=100	N=100	N=50
Maximums	N=1000	N=200	N=200	N=200	N=200	N=200

* Applies to Business Leaders, Tourists, and College Students; excludes Vancouver Residents

NOTE ON ALL QUOTAS: All quotas will be in place until the last two weeks of fieldwork. At this point, an update will be provided to Brand Finance and VEC, which will detail the likelihood of completing fieldwork on time with all quotas in place. If the likelihood is low, then Luth Research will seek approval for removing quotas and completing fieldwork while letting the remaining completes fall out naturally.

SCREENING CRITERIA:

	N=1100 Total			
	Business Leaders	Tourists	College Students	Vancouver Residents
Criteria	<ul style="list-style-type: none"> • Manager level or higher* • Work for a company with \$25+ million in revenue • Familiar with Vancouver and at least one other competitor city 	<ul style="list-style-type: none"> • Have visited in the past 1-3 years, or are planning to visit Vancouver in the next 1-3 years • Familiar with Vancouver and at least one other competitor city 	<ul style="list-style-type: none"> • Attend college or university in Vancouver • Familiar with Vancouver and at least one other competitor city 	<ul style="list-style-type: none"> • Ages 18+ • Live in Vancouver

* Will be left at Manager level during the soft launch. If it is determined that making the qualification more strict (i.e., Directors and above, or VPs and above) will not impact the ability to complete fieldwork, Luth Research will tighten the criteria.

INTRO TO SCREENER

[SHOW ALL]

Thank you for agreeing to participate in our survey. We want to assure you that all of your responses will be kept completely confidential.

Please keep in mind, if you are unable to complete the survey in one sitting, you can always close the window and return at a later time to finish. When you are ready to continue, simply click on the original link in the email and the survey will resume where you left off. However, you will not be able to go back and change your answers to the questions you previously completed.

SCREENER

[ASK ALL]

S0. In what year were you born? **[ALLOW WHOLE NUMBERS ONLY]**

[NUMERICAL TEXT BOX; ALLOW 1909-1996 ONLY] [TERMINATE IF <1909 OR >1996]

[ASK ALL]

S1. Do you currently live in...? **[SINGLE RESPONSE]**

1. Asia-Pacific (excluding Mainland China)
2. Mainland China
3. Africa
4. Europe
5. North America
6. South America
7. Other

[MUST SELECT CODES 1, 2, 4, OR 5 TO CONTINUE, OTHERWISE TERMINATE]

[ASK IF SELECTED CODE 5 IN S1]

S2. More specifically, do you currently live in...? **[SINGLE RESPONSE]**

1. Canada
2. Mexico
3. United States
4. Other

[MUST SELECT CODES 1 OR 3 TO CONTINUE, OTHERWISE TERMINATE]

[ASK ALL]

S3. How familiar are you with the cities listed below?

[ACROSS] [REPEAT SCALE FOR EVERY GROUPING]

5. I know a lot about this city
4. I know a fair amount about this city
3. I know a little about this city
2. I know the name of this city only
1. I was not aware of this city

[DOWN] [SINGLE RESPONSE PER ROW]

Asia/Asia-Pacific (excluding Mainland China)

1. Delhi
2. Hong Kong
3. Seoul
4. Singapore
5. Sydney
6. Taipei
7. Tokyo

Mainland China

8. Beijing
9. Guangzhou
10. Shanghai
11. Shenzhen

Europe

12. Amsterdam
13. Berlin
14. London
15. Paris

Canada

16. Calgary
17. Montreal
18. Toronto
19. Vancouver

United States

20. Chicago
21. Los Angeles
22. San Francisco
23. Seattle

[ALL MUST SELECT CODES 4 OR 5 ACROSS FOR CODE 19 TO CONTINUE, OTHERWISE TERMINATE; ALL MUST SELECT CODES 4 OR 5 ACROSS FOR AT LEAST ONE OF CODES 2, 4, 5, 10, OR 22 TO CONTINUE, OTHERWISE TERMINATE]

[INSERT HIDDEN VARIABLE QFAMILIAR:

- **HONG KONG (CODES 4-5 ACROSS FOR CODE 2 DOWN)**
- **SINGAPORE (CODES 4-5 ACROSS FOR CODE 4 DOWN)**
- **SYDNEY (CODES 4-5 ACROSS FOR CODE 5 DOWN)**
- **SHANGHAI (CODES 4-5 ACROSS FOR CODE 10 DOWN)**
- **VANCOUVER (CODES 4-5 ACROSS FOR CODE 19 DOWN)**
- **SAN FRANCISCO (CODES 4-5 ACROSS FOR CODE 22 DOWN)**

INSERT HIDDEN VARIABLE QRESPONDING – ALL RESPONDENTS SHOULD BE ASSIGNED TO VANCOUVER; ALL BUSINESS LEADERS, TOURISTS, AND COLLEGE STUDENTS SHOULD BE ASSIGNED TO ONE OTHER CITY THAT THEY ARE FAMILIAR WITH; IF THEY ARE FAMILIAR WITH MORE THAN ONE OTHER CITY, ASSIGN TO CITY WITH LOWEST CURRENT BASE SIZE; THE SAME LOGIC CAN APPLY TO VANCOUVER RESIDENTS, BUT IF THEY ARE NOT AWARE OF ONE OTHER CITY, THEY CAN PROCEED BY EVALUATING VANCOUVER ONLY:

- **HONG KONG (CODES 4-5 ACROSS FOR CODE 2 DOWN)**
- **SINGAPORE (CODES 4-5 ACROSS FOR CODE 4 DOWN)**
- **SYDNEY (CODES 4-5 ACROSS FOR CODE 5 DOWN)**
- **SHANGHAI (CODES 4-5 ACROSS FOR CODE 10 DOWN)**
- **VANCOUVER (CODES 4-5 ACROSS FOR CODE 19 DOWN)**
- **SAN FRANCISCO (CODES 4-5 ACROSS FOR CODE 22 DOWN)**

NOTE: Codes 4 and 5 across (I know a lot/some things about this city) will be used to define familiarity with the competitor cities during the soft launch. Should this definition prove to be too strict, and likely to hinder the ability to complete fieldwork, Luth Research will seek approval for opening this up to include code 3 and/or code 2 across (I know a few things about this city/I know the name of this city only). All efforts will be made to avoid including code 2, but it is important to note that it is a possibility depending on incidence.

[ASK ALL]

S4. Is your primary residence in any of the following cities? **[SHOW THOSE FOR WHICH CODES 2-5 ACROSS WERE SELECTED IN S3; SINGLE RESPONSE]**

[SHOW IF SELECTED CODE 1 IN S1]

1. Delhi
2. Hong Kong
3. Seoul
4. Singapore
5. Sydney
6. Taipei
7. Tokyo
98. Other

[SHOW IF SELECTED CODE 2 IN S1]

8. Beijing
9. Guangzhou
10. Shanghai
11. Shenzhen
98. Other

[SHOW IF SELECTED CODE 4 IN S1]

12. Amsterdam
13. Berlin
14. London
15. Paris
98. Other

[SHOW IF SELECTED CODE 1 IN S2]

16. Calgary
17. Montreal
18. Toronto
19. Vancouver
98. Other

[SHOW IF SELECTED CODE 3 IN S2]

20. Chicago
21. Los Angeles
22. San Francisco
23. Seattle
98. Other

[MUST SELECT CODES 2, 3, 6, 8, 10, 14, 16, 17, 18, 19, 21, 22, OR 23 TO CONTINUE, OTHERWISE TERMINATE]

NOTE: The 13 cities allowed to continue are considered the top priority cities per region for sampling. Should these cities prove insufficient for meeting quotas, Luth Research will seek approval for opening this up to include codes 1, 4, 5, 7, 9, 11, 12, 13, 15, and 20 (and possibly 98).

[ASK ALL]

S5. What is your employment status? **[SINGLE RESPONSE]**

1. Employed full time
2. Employed part time
3. Not employed, but looking for work
4. Not employed, and not looking for work
5. Retired
6. Student – at a college or university
7. Student – at a school other than a college or university
8. Homemaker
9. Prefer not to say

[ASK IF SELECTED CODE 6 IN S5]

S6. Is the college or university you attend in any of the following cities? **[SINGLE RESPONSE]**

Asia/Asia-Pacific (excluding Mainland China)

1. Delhi
2. Hong Kong
3. Seoul
4. Singapore
5. Sydney
6. Taipei
7. Tokyo

Mainland China

8. Beijing
9. Guangzhou
10. Shanghai
11. Shenzhen

Europe

12. Amsterdam
13. Berlin
14. London
15. Paris

Canada

16. Calgary
17. Montreal
18. Toronto
19. Vancouver

United States

20. Chicago
21. Los Angeles
22. San Francisco
23. Seattle

98. Other

[ASK IF SELECTED CODES 1 OR 2 IN S5]

S7. Which of the following best matches your job title? **[SINGLE RESPONSE]**

1. C-Level (CEO, CFO, etc.)
2. VP (top level manager)
3. Director (upper level manager)
4. Manager (mid-level manager)
5. Supervisor (first level manager)
6. Administrator (non-manager)
7. Associate (non-manager)
8. Other

NOTE: Codes 1-4 will be used to define Business Leaders during the soft launch. If it is determined that making the qualification more strict (i.e., Directors and above, or VPs and above) will not impact the ability to complete fieldwork, Luth Research will tighten the criteria.

[ASK IF SELECTED CODES 1 OR 2 IN S5]

S8a. Which of the following best reflects your company's annual revenue? **[SINGLE RESPONSE]**

1. Less than \$1 Million
2. \$1 Million to less than \$5 Million
3. \$5 Million to less than \$10 Million
4. \$10 Million to less than \$25 Million
5. \$25 Million to less than \$100 Million
6. \$100 Million or more
7. Don't know

[ASK IF SELECTED CODES 1 OR 2 IN S5]

S8b. Which of the following best reflects your company's annual FTEs (full time equivalent)? **[SINGLE RESPONSE]**

1. 1-4
2. 5-9
3. 10-19
4. 20-49
5. 50-99
6. 100-199
7. 200-499
8. 500+
9. Don't know

[ASK ALL]

S9a. Which of the following cities have you visited in the past 3 years? **[DO NOT SHOW CITY OF RESIDENCE AS SELECTED IN S4; MULTIPLE RESPONSE]**

Asia/Asia-Pacific (excluding Mainland China)

1. Delhi
2. Hong Kong
3. Seoul
4. Singapore
5. Sydney
6. Taipei
7. Tokyo

Mainland China

8. Beijing
9. Guangzhou
10. Shanghai
11. Shenzhen

Europe

12. Amsterdam
13. Berlin
14. London
15. Paris

Canada

16. Calgary
17. Montreal
18. Toronto
19. Vancouver

United States

20. Chicago
21. New York
22. San Francisco
23. Seattle

99. None of the above

[ASK ALL]

S9b. Which of the following cities do you plan to visit in the next 3 years? **[DO NOT SHOW CITY OF RESIDENCE AS SELECTED IN S4; MULTIPLE RESPONSE]**

Asia/Asia-Pacific (excluding Mainland China)

1. Delhi
2. Hong Kong
3. Seoul
4. Singapore
5. Sydney
6. Taipei
7. Tokyo

Mainland China

8. Beijing
9. Guangzhou
10. Shanghai
11. Shenzhen

Europe

12. Amsterdam
13. Berlin
14. London
15. Paris

Canada

16. Calgary
17. Montreal
18. Toronto
19. Vancouver

United States

20. Chicago
21. New York
22. San Francisco
23. Seattle

99. None of the above

[INSERT HIDDEN VARIABLE QUOTA:

- **ASSIGN AS "BUSINESS LEADER" IF:**
 - **SELECTED CODES 1 OR 2 IN S5**
 - **SELECTED CODES 1-4 IN S7**
 - **SELECTED CODES 3-6 IN S8a AND/OR SELECTED CODES 5-8 IN S8b**
- **ASSIGN AS "TOURIST" IF:**
 - **SELECTED CODE 19 IN S9a OR SELECTED CODE 19 IN S9b**
- **ASSIGN AS "COLLEGE STUDENT" IF:**
 - **SELECTED CODE 6 IN S5**
 - **SELECTED CODE 19 IN S6**
- **ASSIGN AS "VANCOUVER RESIDENT" IF:**
 - **ENTERED 1909-1996 IN S0**
 - **SELECTED CODE 19 IN S4**

IF RESPONDENT QUALIFIES FOR MORE THAN ONE QUOTA, RESPONDENT WILL BE ASSIGNED TO ONE QUOTA, WHICH SHOULD BE PRIORITIZED AS FOLLOWS:

- 1. BUSINESS LEADER**
- 2. COLLEGE STUDENT**
- 3. TOURIST**
- 4. VANCOUVER RESIDENT**

INTRO TO QUESTIONNAIRE

[SHOW ALL]

We would like to ask you some questions about cities throughout the world. The cities you will be asked about are:

[ALPHABETIZE; MAINTAIN ORDER FOR REMAINDER OF SURVEY]

- Vancouver
- [INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]

Let's get started.

QUESTIONNAIRE

[ASK ALL BUSINESS LEADERS, TOURISTS, AND COLLEGE STUDENTS; ONLY ASK VANCOUVER RESIDENTS IF THEY ARE EVALUATING CITIES OTHER THAN VANCOUVER]

Q1. How many times have you visited each of the following cities in the past 3 years? Please enter a whole number in the space provided for each city. If you have not visited a city in the past 3 years, please enter '0' in the space provided. [DO NOT SHOW CITY OF RESIDENCE AS SELECTED IN S4; INSERT DROP DOWN PER EACH ROW SHOWING INDIVIDUAL ANSWER CHOICES FOR 0-49, ALONG WITH 50+]

1. Vancouver
2. [INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]

[ASK ALL BUSINESS LEADERS, TOURISTS, AND COLLEGE STUDENTS; ONLY ASK VANCOUVER RESIDENTS IF THEY ARE EVALUATING CITIES OTHER THAN VANCOUVER]

Q2. And how many times do you plan to visit each of the following cities in the next 3 years? Please enter a whole number in the space provided for each city. If you do not plan to visit a city in the next 3 years, please enter '0' in the space provided. [DO NOT SHOW CITY OF RESIDENCE AS SELECTED IN S4; NUMERIC OPEN END PER EACH ROW; INSERT DROP DOWN PER EACH ROW SHOWING INDIVIDUAL ANSWER CHOICES FOR 0-49, ALONG WITH 50+]

1. Vancouver
2. [INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]

[ASK ALL BUSINESS LEADERS, TOURISTS, AND COLLEGE STUDENTS; ONLY ASK VANCOUVER RESIDENTS IF THEY ARE EVALUATING CITIES OTHER THAN VANCOUVER]

[ASK IF ENTERED 1+ IN Q2]

Q3. Of the cities you plan to visit in the next 3 years, how many trips will be for business and how many trips will be for leisure? Your best estimate is fine. **[DO NOT SHOW CITY OF RESIDENCE AS SELECTED IN S4; ONLY SHOW CITIES WHERE 1+ WAS ENTERED IN Q2; TWO NUMERIC OPEN ENDS PER EACH ROW, ONE FOR BUSINESS AND ONE FOR LEISURE; SUM FOR EACH ROW SHOULD EQUAL THE NUMBER ENTERED IN Q2]**

[ACROSS]

1. Business
2. Leisure

[DOWN]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

[ASK ALL]

Q4a. **[SHOW IF BUSINESS LEADER]** What is your overall impression of the following cities as a place to conduct business?

[SHOW IF TOURIST] What is your overall impression of the following cities as a place to go on vacation?

[SHOW IF COLLEGE STUDENT] What is your overall impression of the following cities as a place to study in?

[SHOW IF VANCOUVER RESIDENT] What is your overall impression of the following cities as a place to live?

[ACROSS] [SHOW DROP DOWN FOR EACH CITY LISTED BELOW]

5. Very positive
4. Somewhat positive
3. Neutral
2. Somewhat negative
1. Very negative

[DOWN] [SINGLE RESPONSE PER ROW]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

Q4b. What is your overall impression of the following cities as a place for **innovation**? Please rank the cities below from **most innovative** to **least innovative**. **[DRAG AND DROP]**

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

Q4c. What is your overall impression of the following cities as a place for **creativity**? Please rank the cities below from **most creative** to **least creative**. **[DRAG AND DROP]**

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

Q4d. What is your overall impression of the following cities as a place for **sustainability**? Please rank the cities below from **most sustainable** to **least sustainable**. **[DRAG AND DROP]**

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

[SHOW ALL]

Now we would like to ask you some questions about your perceptions of:

[ROTATE THE ORDER IN WHICH THE TWO CITIES ARE SHOWN; MAINTAIN ORDER THROUGHOUT Q5a-Q8b]

- Vancouver
- **[INSERT OTHER CITY FROM HIDDEN VARIABLE QRESPONDING (IF APPLICABLE)]**

For the first set of questions, we would like you to think about **[INSERT FIRST CITY LISTED]**.

[ASK ALL]

Q5a. How would you rate **[INSERT FIRST CITY LISTED]** on the following?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Ease of getting around
2. Quality of infrastructure (roads, bridges, etc.)
3. Digital infrastructure/connectivity
4. Protective of its environment
5. Has a strong economy
6. Has a lot of job opportunities **[SHOW IF BUSINESS LEADER, COLLEGE STUDENT, VANCOUVER RESIDENT]**
7. Quality of medical care
8. People are friendly and accommodating
9. Quality of schools/education system
10. Effective and transparent government
11. Safety
12. Easy to get approved for a visa
13. Has a lot of history/tradition **[SHOW IF TOURIST, COLLEGE STUDENT, VANCOUVER RESIDENT]**

[SHOW CODES 14-20 IF BUSINESS LEADER]

14. Good place to do business
15. Good place for investment opportunities
16. Good place to start a new business
17. Provides access to people with industry expertise
18. Provides access to strong potential business partners
19. Provides access to skilled labor
20. Work visas are easy to obtain

[SHOW CODES 21-23 IF TOURIST]

21. Good place to go on vacation
22. Quality of arts
23. Travel visas are easy to obtain

[SHOW CODES 24-29 IF COLLEGE STUDENT]

24. Good place to get an education
25. The universities and professors are leaders in their fields
26. Universities get adequate funding for research
27. Home to top tier universities
28. Good student life (clubs, societies, etc.)
29. Student visas are easy to obtain

[SHOW CODES 30-32 IF VANCOUVER RESIDENT]

30. Good place to live/raise a family
31. Good place to work
32. Good place to build a career

[ASK ALL]

Q6a. And please indicate how strongly you agree with the following statements about **[INSERT FIRST CITY LISTED]**.

[ACROSS]

5. Strongly agree
4. Somewhat agree
3. Neither agree nor disagree
2. Somewhat disagree
1. Strongly disagree
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Is a lively city
 2. Is a trendy or 'cool' city
 3. Has fun things to do
 4. Has a great lifestyle
 5. The city has great nightlife
 6. I find this city provides a community experience
 7. I find this place depressing
 8. A place I would love to live in
 9. Generally think the city is friendly
 10. Consider to be "green" or eco-friendly
 11. This city has a strong cultural reputation
 12. I find it to be an expensive city to live in
 13. I associate fairness with this city (of the government, etc.)
 14. Culturally diverse
 15. Exists in harmony with its environment
- [SHOW CODE 16 IF VANCOUVER RESIDENT; SHOW FOR VANCOUVER ONLY]**
16. A city I'm proud to live in

[ASK IF TOURIST, COLLEGE STUDENT, OR VANCOUVER RESIDENT]

Q7a. Thinking about the things to do and see in **[INSERT FIRST CITY LISTED]**, how would you rate **[INSERT FIRST CITY LISTED]** on its...?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Natural scenery, including national or state parks
2. Outdoor activities such as hiking or cycling
3. Adventure activities such as skydiving or bungee jumping
4. Water activities such as boating, fishing, or scuba diving
5. Theme parks or amusement parks
6. Winter activities such as skiing or snowboarding
7. Fine dining
8. Shopping
9. Sporting events

[ASK IF BUSINESS LEADER]

Q8a. Thinking about the industries in **[INSERT FIRST CITY LISTED]**, how would you rate **[INSERT FIRST CITY LISTED]** as a place for...?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. International commerce / trade / banking / finance
2. Resource industry (oil and gas, forestry, mining, etc.)
3. Law firms
4. Technology / ICT (Information Communications Technology)
5. Software development / Gaming
6. Digital entertainment (films, TV, VFX, animation)
7. Tourism
8. Clean technology or green / sustainable

[SHOW ALL]

For the next set of questions, we would like you to think about **[INSERT SECOND CITY LISTED]**.

[ASK ALL]

Q5b. How would you rate **[INSERT SECOND CITY LISTED]** on the following?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Ease of getting around
2. Quality of infrastructure (roads, bridges, etc.)
3. Digital infrastructure/connectivity
4. Protective of its environment
5. Has a strong economy
6. Has a lot of job opportunities **[SHOW IF BUSINESS LEADER, COLLEGE STUDENT, VANCOUVER RESIDENT]**
7. Quality of medical care
8. People are friendly and accommodating
9. Quality of schools/education system
10. Effective and transparent government
11. Safety
12. Easy to get approved for a visa
13. Has a lot of history/tradition **[SHOW IF TOURIST, COLLEGE STUDENT, VANCOUVER RESIDENT]**

[SHOW CODES 14-20 IF BUSINESS LEADER]

14. Good place to do business
15. Good place for investment opportunities
16. Good place to start a new business
17. Provides access to people with industry expertise
18. Provides access to strong potential business partners
19. Provides access to skilled labor
20. Work visas are easy to obtain

[SHOW CODES 21-23 IF TOURIST]

21. Good place to go on vacation
22. Quality of arts
23. Travel visas are easy to obtain

[SHOW CODES 24-29 IF COLLEGE STUDENT]

24. Good place to get an education
25. The universities and professors are leaders in their fields
26. Universities get adequate funding for research
27. Home to top tier universities
28. Good student life (clubs, societies, etc.)
29. Student visas are easy to obtain

[SHOW CODES 30-32 IF VANCOUVER RESIDENT]

30. Good place to live/raise a family
31. Good place to work
32. Good place to build a career

[ASK ALL]

Q6b. And please indicate how strongly you agree with the following statements about **[INSERT SECOND CITY LISTED]**.

[ACROSS]

5. Strongly agree
4. Somewhat agree
3. Neither agree nor disagree
2. Somewhat disagree
1. Strongly disagree
0. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Is a lively city
2. Is a trendy or 'cool' city
3. Has fun things to do
4. Has a great lifestyle
5. The city has great nightlife
6. I find this city provides a community experience
7. I find this place depressing
8. A place I would love to live in
9. Generally think the city is friendly
10. Consider to be "green" or eco-friendly
11. This city has a strong cultural reputation
12. I find it to be an expensive city to live in
13. I associate fairness with this city (of the government, etc.)
14. Culturally diverse
15. Exists in harmony with its environment

[SHOW CODE 16 IF VANCOUVER RESIDENT; SHOW FOR VANCOUVER ONLY]

16. A city I'm proud to live in

[ASK IF TOURIST, COLLEGE STUDENT, OR VANCOUVER RESIDENT]

Q7b. Thinking about the things to do and see in **[INSERT SECOND CITY LISTED]**, how would you rate **[INSERT SECOND CITY LISTED]** on its...?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
2. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. Natural scenery, including national or state parks
2. Outdoor activities such as hiking or cycling
3. Adventure activities such as skydiving or bungee jumping
4. Water activities such as boating, fishing, or scuba diving
5. Theme parks or amusement parks
6. Winter activities such as skiing or snowboarding
7. Fine dining
8. Shopping
9. Sporting events

[ASK IF BUSINESS LEADER]

Q8b. Thinking about the industries in **[INSERT SECOND CITY LISTED]**, how would you rate **[INSERT SECOND CITY LISTED]** as a place for...?

[ACROSS]

5. Excellent
4. Good
3. Average
2. Fair
1. Poor
2. Don't know

[DOWN] [REPEAT SCALE EVERY FIVE ROWS]

1. International commerce / trade / banking / finance
2. Resource industry (oil and gas, forestry, mining, etc.)
3. Law firms
4. Technology / ICT (Information Communications Technology)
5. Software development / Gaming
6. Digital entertainment (films, TV, VFX, animation)
7. Tourism
8. Clean technology or green / sustainable

[ASK ALL]

Q9. Imagine that an oil tanker had an oil spill in the harbor of each city listed below. The spill would need a brief cleanup that required modest resources. The spill would only cause a **short-term negative impact** on the city, its ecosystem, wildlife, and pollution levels with **no major lasting effects** on its environment and businesses in the area.

[SHOW IF BUSINESS LEADER] How would this affect your overall impression of each city as a place to conduct business?

[SHOW IF TOURIST] How would this affect your overall impression of each city as a place to go on vacation?

[SHOW IF COLLEGE STUDENT] How would this affect your overall impression of each city as a place to study in?

[SHOW IF VANCOUVER RESIDENT] How would this affect your overall impression of each city as a place to live?

[ACROSS]

3. Would not change my opinion
2. Would somewhat lower my opinion
1. Would significantly lower my opinion

[DOWN] [SINGLE RESPONSE PER ROW]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

[ASK ALL]

Q10. Imagine that an oil tanker had an oil spill in the harbor of each city listed below. The spill would need a cleanup that required **moderate resources**. The result would be **minor long term negative impacts** on the city, its ecosystem, local businesses, wildlife, and pollution levels.

[SHOW IF BUSINESS LEADER] How would this affect your overall impression of each city as a place to conduct business?

[SHOW IF TOURIST] How would this affect your overall impression of each city as a place to go on vacation?

[SHOW IF COLLEGE STUDENT] How would this affect your overall impression of each city as a place to study in?

[SHOW IF VANCOUVER RESIDENT] How would this affect your overall impression of each city as a place to live?

[ACROSS]

3. Would not change my opinion
2. Would somewhat lower my opinion
1. Would significantly lower my opinion

[DOWN] [SINGLE RESPONSE PER ROW]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

[ASK ALL]

Q11. Imagine that an oil tanker had an oil spill in the harbor of each city listed below. The spill would need a cleanup that required **abundant resources**. The result would be **significant long term negative impacts** on the city, its ecosystem, local businesses, wildlife, and pollution levels.

[SHOW IF BUSINESS LEADER] How would this affect your overall impression of each city as a place to conduct business?

[SHOW IF TOURIST] How would this affect your overall impression of each city as a place to go on vacation?

[SHOW IF COLLEGE STUDENT] How would this affect your overall impression of each city as a place to study in?

[SHOW IF VANCOUVER RESIDENT] How would this affect your overall impression of each city as a place to live?

[ACROSS]

3. Would not change my opinion
2. Would somewhat lower my opinion
1. Would significantly lower my opinion

[DOWN] [SINGLE RESPONSE PER ROW]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

DEMOGRAPHICS

The following questions will be used for classification purposes only.

[ASK ALL]

D1. What is your gender? **[SINGLE RESPONSE]**

1. Male
2. Female

[D2 WAS PURPOSELY REMOVED]

[ASK IF BUSINESS LEADER, TOURIST, OR VANCOUVER RESIDENT]

D3. What is the highest level of education you have completed? **[SINGLE RESPONSE]**

[SHOW IF US OR KOREA OR TAIWAN]

1. High school or less
2. Trade, technical, or vocational school
3. Associate degree/diploma
4. Bachelor degree/diploma
5. Graduate degree/diploma (Master's, Ph.D., etc.)

[SHOW IF CANADA]

6. High school or less
7. Trade, technical, or vocational school
8. Bachelor degree/diploma
9. Graduate degree/diploma (Master's, Ph.D., etc.)

[SHOW IF ASIA-PACIFIC OR MAINLAND CHINA]

10. Junior middle school or less
11. Senior high school or vocational school
12. Bachelor degree/diploma
13. Graduate degree/diploma (Master's, Ph.D., etc.)

[SHOW IF UK]

14. 5th form secondary or less
15. 6th form secondary
16. Bachelor degree/diploma
17. Postgraduate degree/diploma (Master's, Ph.D., etc.)

[SHOW IF GERMANY]

18. Grade 9
19. Grade 10
20. Grade 11
21. Grade 12
22. Grade 13
23. Trade, technical, or vocational school
24. Bachelor degree/diploma
25. Postgraduate degree/diploma (Master's, Ph.D., etc.)

[SHOW ALL]

99. Prefer not to say

[ASK ALL]

D4. Which of the following best represents your total annual household income? **[SINGLE RESPONSE]**

[SHOW IF US OR CANADA]

1. Less than \$15,000
2. \$15,000-\$24,999
3. \$25,000-\$49,999
4. \$50,000-\$74,999
5. \$75,000-\$99,999
6. \$100,000-\$124,999
7. \$125,000-\$149,999
8. \$150,000-\$174,999
9. \$175,000-\$199,999
10. \$200,000 or more

[SHOW IF ASIA-PACIFIC OR MAINLAND CHINA]

11. 15,000 yuan or less
12. 15,001-20,000 yuan
13. 20,001-25,000 yuan
14. 25,001-30,000 yuan
15. 30,001-40,000 yuan
16. 40,001-50,000 yuan
17. Over 50,000 yuan

[SHOW IF KOREA]

18. 5,000,000 won or less
19. 5,000,001-10,000,000 won
20. 10,000,001-20,000,000 won
21. 20,000,001-30,000,000 won
22. 30,000,001-40,000,000 won
23. 40,000,001-50,000,000 won
24. Over 50,000,000 won

[SHOW IF TAIWAN]

25. 250,000 NT\$ or less
26. 250,001-500,000 NT\$
27. 500,001-1,000,000 NT\$
28. 1,000,001-1,500,000 NT\$
29. 1,500,001-2,000,000 NT\$
30. 2,000,001-2,500,000 NT\$
31. 2,500,001-3,000,000 NT\$
32. Over 3,000,000 NT\$

[SHOW IF UK]

- 33. Less than 15,000 pounds
- 34. 15,000-24,999 pounds
- 35. 25,000-49,999 pounds
- 36. 50,000-74,999 pounds
- 37. 75,000-99,999 pounds
- 38. 100,000-124,999 pounds
- 39. 125,000-149,999 pounds
- 40. 150,000 pounds or more

[SHOW IF GERMANY]

- 41. Less than €15,000
- 42. €15,000-€24,999
- 43. €25,000-€49,999
- 44. €50,000-€74,999
- 45. €75,000-€99,999
- 46. €100,000-€124,999
- 47. €125,000-€149,999
- 48. €150,000 or more

[SHOW ALL]

- 99. Prefer not to say

[D5 WAS PURPOSELY REMOVED]

[ASK IF TOURIST, COLLEGE STUDENT, OR VANCOUVER RESIDENT]

D6. Including yourself, how many people in each of the following age groups do you currently have living in your household? **[ALLOW WHOLE NUMBERS ONLY]**

Adults 18+

[NUMERICAL TEXT BOX; ALLOW 1-19 ONLY]

Children under the age of 18

[NUMERICAL TEXT BOX; ALLOW 0-19 ONLY]

[ASK BUSINESS LEADER]

D7. Which of the following industries do you currently work for? **[SINGLE RESPONSE]**

1. Accommodation and food services
2. Administrative and support services
3. Clean technology or green / sustainable
4. Construction
5. Digital entertainment (films, TV, VFX, animation)
6. Educational services
7. Health care and social assistance
8. Information
9. International commerce / trade / banking / finance
10. Law firms
11. Manufacturing
12. Management of companies and enterprises
13. Personal and laundry services
14. Public administration
15. Real estate and rental and leasing
16. Religious, grant-making, civic, professional, and similar organizations
17. Repair and maintenance
18. Resource industry (oil and gas, forestry, mining, etc.)
19. Retail trade
20. Software development / Gaming
21. Technology / ICT (Information Communications Technology)
22. Tourism
23. Transportation and warehousing
24. Utilities
25. Other

[ASK IF BUSINESS LEADER]

D8. Worldwide, how many people does your company employ? If you're unsure, please give your best estimate. **[SINGLE RESPONSE]**

1. Less than 1,000
2. 1,000-4,999
3. 5,000-9,999
4. 10,000 or more

[ASK IF BUSINESS LEADER]

D9. Does your company have offices in the cities listed below?

[ACROSS]

1. Yes
2. No

[DOWN] [SINGLE RESPONSE PER ROW]

1. Vancouver
2. **[INSERT OTHER(S) FROM HIDDEN VARIABLE QFAMILIAR]**

**APPENDIX F TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Detailed Brand Equity Scores

Appendix F: Brand equity results

Equity (60%)	Impressions	Overall impression as creative		All	Q4c. What is your overall impression of the following cities as a place for creativity?	3.90	5.00	1.50	1.30	1.00	
		Overall impression for sustainability		All	Q4d. What is your overall impression of the following cities as a place for sustainability?	5.00	4.08	2.10	2.41	1.31	
	Economic	Has a strong economy	Functional	All	Q5.5. How would you rate [City] on the following	1.00	2.09	5.00	1.38	3.18	
		Has a lot of job opportunities	Functional	Business leaders, student, resident	Q5.6. How would you rate [City] on the following	1.00	1.00	4.33	2.33	4.67	
		Good place to do business	Functional	Business leaders	Q5.14. How would you rate [City] on the following	2.11	1.67	5.00	2.33	1.00	
		Good place for investment opportunities	Functional	Business leaders	Q5.15. How would you rate [City] on the following	2.60	1.20	5.00	1.00	1.80	
		Good place to start a new business	Functional	Business leaders	Q5.16. How would you rate [City] on the following	4.27	2.45	5.00	2.82	2.45	
		Provides access to people with industry expertise	Functional	Business leaders	Q5.17. How would you rate [City] on the following	3.15	1.62	5.00	1.82	1.00	
		Provides access to strong potential business partners	Functional	Business leaders	Q5.18. How would you rate [City] on the following	2.33	1.00	5.00	1.87	2.56	
		Provides access to skilled labour	Functional	Business leaders	Q5.19. How would you rate [City] on the following	4.00	3.00	5.00	4.25	1.75	
		Good place to work	Functional	Residents	Q5.31. How would you rate [City] on the following	4.49	3.67	5.00	3.77	3.56	
		Good place to build a career	Functional	Residents	Q5.32. How would you rate [City] on the following	2.67	3.67	4.33	1.00	2.33	
		I find it to be an expensive city to live in	Reputational	All	Q6.12. And please indicate how strongly you agree with the following statements about [CITY].	2.09	2.09	2.09	5.00	3.18	
		Economic	Associations with international commerce/trade/banking/finance	Reputational	Business leaders	Q8.1. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	2.20	2.60	5.00	1.00	5.00
			Associations with resource industry	Reputational	Business leaders	Q8.2. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	5.00	1.21	1.74	3.53	2.16
	Associations with law firms		Reputational	Business leaders	Q8.3. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	4.05	5.00	3.67	2.33	1.00	
	Associations with Technology/ICT (info communications tech)		Reputational	Business leaders	Q8.4. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	3.11	4.79	5.00	1.00	2.05	
	Associations with software development / gaming		Reputational	Business leaders	Q8.5. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	3.57	5.00	3.57	1.00	2.71	
	Associations with digital entertainment (films, TV, VFX, animation)		Reputational	Business leaders	Q8.6. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	5.00	4.50	2.00	1.00	2.00	
	Associations with tourism		Reputational	Business leaders	Q8.7. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	4.73	5.00	3.13	3.93	1.00	
	Associations with clean technology or green / sustainable		Reputational	Business leaders	Q8.8. Thinking about the industries in [CITY], how would you rate [CITY] as a place for...?	5.00	3.57	3.04	3.49	1.15	
	Healthcare	Quality of medical care	Functional	All	Q5.7. How would you rate [City] on the following	5.00	1.25	3.38	3.88	1.00	
		Quality of schools / education system	Functional	All	Q5.9. How would you rate [City] on the following	5.00	1.00	5.00	3.90	1.83	
	Education	Good place to get an education	Functional	Students	Q5.24. How would you rate [City] on the following	4.45	1.00	5.00	3.90	3.90	
		The universities and professors are leaders in their field	Functional	Students	Q5.25. How would you rate [City] on the following	4.69	1.00	3.15	3.77	5.00	
		Universities get adequate funding for research	Functional	Students	Q5.26. How would you rate [City] on the following	3.86	2.14	4.43	1.76	5.00	
		Home to top tier universities	Functional	Students	Q5.27. How would you rate [City] on the following	3.67	2.00	4.33	3.67	5.00	
	Safety and Security	Good student life (clubs, societies, etc.)	Functional	Students	Q5.28. How would you rate [City] on the following	4.52	1.00	5.00	3.95	3.48	
		Perception of safety	Reputational	All	Q5.11. How would you rate [City] on the following	5.00	1.00	5.00	3.88	1.38	
	Infrastructure	Easy to get around	Functional	All	Q5.1. How would you rate [City] on the following	2.89	1.00	5.00	2.89	1.42	
		Quality of infrastructure	Functional	All	Q5.2. How would you rate [City] on the following	3.43	1.00	5.00	3.29	2.29	
		Digital infrastructure / connectivity	Functional	All	Q5.3. How would you rate [City] on the following	3.60	2.00	5.00	1.60	1.00	
		Good place to go on vacation	Functional	Tourists	Q5.21. How would you rate [City] on the following	4.57	4.88	3.05	5.00	1.54	
		Quality of arts	Functional	Tourists	Q5.22. How would you rate [City] on the following	4.47	5.00	2.78	4.02	3.49	
		The city has great nightlife	Reputational	All	Q6.5. And please indicate how strongly you agree with the following statements about [CITY].	1.00	5.00	1.70	3.09	2.57	
		Is a lively city	Reputational	All	Q6.1. And please indicate how strongly you agree with the following statements about [CITY].	1.00	5.00	2.14	3.29	1.00	
		Is a trendy or 'cool' city	Reputational	All	Q6.2. And please indicate how strongly you agree with the following statements about [CITY].	2.75	5.00	1.00	4.25	3.50	
		Has fun things to do	Reputational	All	Q6.3. And please indicate how strongly you agree with the following statements about [CITY].	3.44	4.33	1.00	5.00	1.67	
		I find this city depressing	Reputational	All	Q6.7. And please indicate how strongly you agree with the following statements about [CITY].	3.48	5.00	2.08	2.85	1.00	
	Recreation	Natural scenery	Functional	Tourists, students, residents	Q7.1. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	5.00	4.80	2.42	4.80	1.00	
		Outdoor activities	Functional	Tourists, students, residents	Q7.2. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	5.00	4.52	2.03	4.70	1.00	
		Adventure activities	Functional	Tourists, students, residents	Q7.3. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	4.46	2.23	2.31	5.00	1.08	
		Water activities	Functional	Tourists, students, residents	Q7.4. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	4.43	3.41	2.46	5.00	1.00	
		Theme/amusement parks	Functional	Tourists, students, residents	Q7.5. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	3.29	1.00	5.00	3.71	1.14	
Winter activities		Functional	Tourists, students, residents	Q7.6. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	5.00	1.17	1.17	1.74	1.00		
Fine dining		Functional	Tourists, students, residents	Q7.7. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	3.48	5.00	3.29	1.00	3.10		
Shopping		Functional	Tourists, students, residents	Q7.8. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	2.89	4.58	5.00	1.00	4.37		
Sporting events		Functional	Tourists, students, residents	Q7.9. Thinking about the things to do and see in [CITY], how would you rate [CITY] on its...?	5.00	5.00	1.70	3.40	1.60		
Social		Has a lot of history and tradition	Functional	Tourists, students, residents	Q5.13. How would you rate [City] on the following	1.00	5.00	1.83	1.00	4.33	
	Good place to live/raise a family	Functional	Residents	Q5.30. How would you rate [City] on the following	5.00	3.60	2.20	4.87	1.00		
	The city has a great lifestyle	Reputational	All	Q6.4. And please indicate how strongly you agree with the following statements about [CITY].	5.00	4.63	2.63	4.88	1.38		
	I find this city provides a community experience	Reputational	All	Q6.6. And please indicate how strongly you agree with the following statements about [CITY].	5.00	3.32	2.29	3.71	1.13		
	The people are friendly and accommodating	Reputational	All	Q5.8. How would you rate [City] on the following	5.00	2.95	3.36	4.69	1.21		
	Generally think the city is friendly	Reputational	All	Q6.9. And please indicate how strongly you agree with the following statements about [CITY].	5.00	4.22	3.15	5.00	1.29		
	The city has a strong cultural reputation	Reputational	All	Q6.11. And please indicate how strongly you agree with the following statements about [CITY].	2.52	5.00	1.00	1.76	2.71		
A place I would love to live in	Reputational	All	Q6.8. And please indicate how strongly you agree with the following statements about [CITY].	5.00	2.83	2.03	4.89	1.23			

**APPENDIX G TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

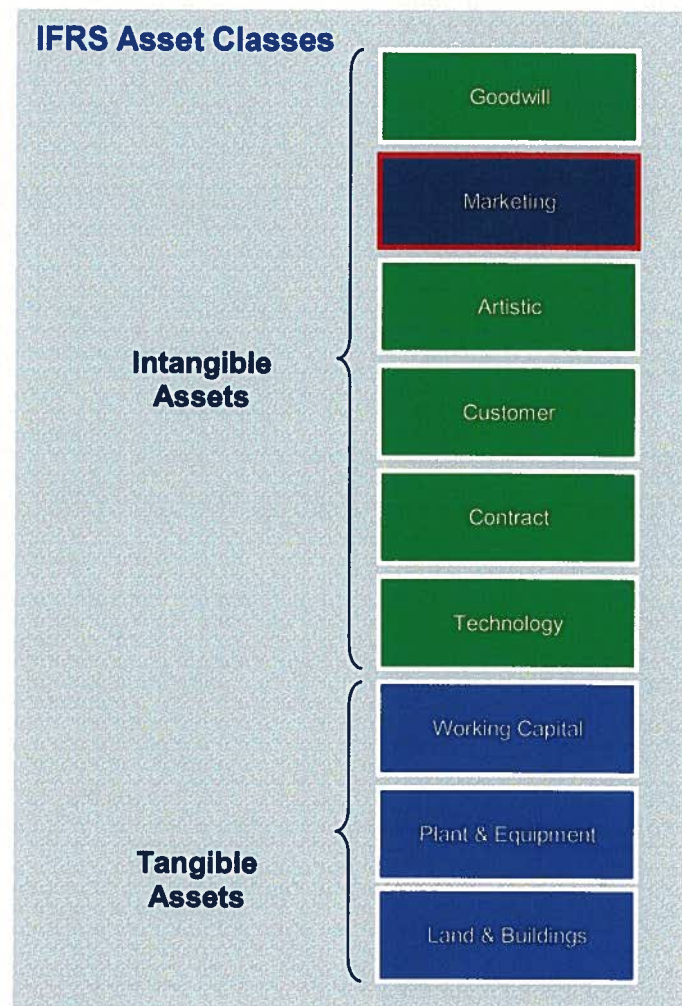
Mid-level oil spill valuation assessment

APPENDIX G: Intangible Asset Value

Intangible Asset Value

Intangible assets make up the majority of global business value*.

- The IFRS (International Financial Reporting Standards) separate intangible assets into five identifiable classes - Marketing, Artistic, Customer, Contract and Technology.
- Brand is represented by the 'Marketing' intangible class and includes trademarks, tradenames, trade dress, typography, domain names and a number of other company identifiers.
- When a company is acquired each of the five identifiable intangible asset classes must be valued and reported. However, the benefits of valuation extend well beyond financial reporting.
- Among many other applications, specific valuations can be used:
- To provide an objective measure of the future performance of marketing, advertising or PR campaigns;
- To decide on extending the use of a brand in to different products or geographies;
- To value the impact of targeting a particular group of customers.
- To create a solid basis for intra-company price-setting for tax and legal purposes
- By analysing the key drivers of value both for brand and for business, an expected monetary return can be placed on any investment.



**APPENDIX H TO THE WRITTEN EVIDENCE OF EDGAR BAUM,
BRAND FINANCE**

Intangible Asset Value

Appendix H: Mid-level assessment for small, medium, and large spills respectively, figures in \$millions

Brand Valuation - Agriculture (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP		324	342	367	368	437	481			
Royalty Rate	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%			
Royalty Income	0	3	4	4	4	5	5			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(1)	(1)	(1)	(1)	(1)	(1)			
Royalty Income After Tax	0	2	3	3	3	3	4			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			2.62	2.61	2.62	2.68	2.71	13	66	60
Brand Valuation - Industry (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	21,274	21,404	22,185	23,329	24,757	26,242			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	264	265	275	289	307	325			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(70)	(70)	(73)	(77)	(81)	(88)			
Royalty Income After Tax	0	194	195	202	213	226	239			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			194.00	186.15	181.22	178.03	174.70	914	4280	5194
Brand Valuation - Transport, storage, information & comm services (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	12,740	12,647	12,908	13,370	13,969	14,666			
Royalty Rate	8.6%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	157	156	159	164	172	180			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(42)	(41)	(42)	(44)	(46)	(48)			
Royalty Income After Tax	0	115	114	117	121	126	133			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			113.71	107.44	103.02	99.65	96.85	521	2373	2883
Brand Valuation - Financial & business services (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	43,653	43,634	44,835	46,783	49,272	52,168			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	537	537	551	575	606	642			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(142)	(142)	(146)	(152)	(161)	(170)			
Royalty Income After Tax	0	395	394	405	423	445	472			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			392.31	373.17	360.48	351.47	344.49	1622	8440	10262
Brand Valuation - Consumer services (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	17,610	17,563	18,054	18,797	19,689	20,786			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	217	216	222	231	242	256			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(57)	(57)	(59)	(61)	(64)	(68)			
Royalty Income After Tax	0	159	159	163	170	178	188			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			157.90	150.27	144.84	140.45	137.26	731	3363	4094
Brand Valuation - Public services (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	21,229	21,111	21,564	22,379	23,460	24,662			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	261	260	265	275	289	304			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(69)	(69)	(70)	(73)	(76)	(80)			
Royalty Income After Tax	0	192	191	195	202	212	223			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			189.81	179.48	172.43	167.34	163.06	872	3995	4867
Brand Valuation - Other (City only)								Explicit	Perpetuity	NPV
	2012	2013	2014	2015	2016	2017	2018			
GRDP	0	10,877	10,867	11,170	11,654	12,267	12,965			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	134	134	137	143	151	159			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(35)	(35)	(36)	(38)	(40)	(42)			
Royalty Income After Tax	0	98	98	101	105	111	117			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			97.71	92.97	89.79	87.50	85.62	454	2098	2551
Total Brand Value								5326	24616	29942

Brand Valuation - Agriculture (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP		324	342	367	398	437	481			
Royalty Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%			
Royalty Income	0	3	4	4	4	5	5			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(1)	(1)	(1)	(1)	(1)	(1)			
Royalty Income After Tax	0	2	3	3	3	3	4			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			2.57	2.56	2.57	2.61	2.66	13	65	78
Brand Valuation - Industry (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	21,274	21,404	22,185	23,329	24,757	26,242			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	260	262	272	286	303	321			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(69)	(69)	(72)	(76)	(80)	(85)			
Royalty Income After Tax	0	191	193	200	210	223	236			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			191.50	183.75	178.88	175.74	172.44	902	4225	5127
Brand Valuation - Transport, storage, information & comin services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	12,740	12,647	12,908	13,370	13,969	14,666			
Royalty Rate	8.6%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	155	154	157	163	170	179			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(41)	(41)	(42)	(43)	(45)	(47)			
Royalty Income After Tax	0	114	113	116	120	125	131			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			112.60	106.39	102.01	98.67	95.90	516	2350	2865
Brand Valuation - Financial & business services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	43,653	43,634	44,835	46,783	49,272	52,168			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	532	531	546	570	600	635			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(141)	(141)	(145)	(151)	(159)	(168)			
Royalty Income After Tax	0	391	391	401	419	441	467			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			388.48	369.53	356.96	348.04	341.13	1804	8358	10162
Brand Valuation - Consumer services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	17,610	17,563	18,054	18,797	19,689	20,786			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	214	220	229	240	253	263			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(57)	(57)	(58)	(61)	(64)	(67)			
Royalty Income After Tax	0	158	157	162	168	176	186			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			158.36	148.80	143.42	139.08	135.92	724	3330	4054
Brand Valuation - Public services (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	21,229	21,111	21,564	22,379	23,460	24,692			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	259	257	263	273	286	301			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(69)	(69)	(70)	(72)	(76)	(80)			
Royalty Income After Tax	0	190	189	193	200	210	221			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			187.96	177.73	170.75	165.71	161.46	864	3956	4820
Brand Valuation - Other (City only)	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
GRDP	0	10,877	10,867	11,170	11,654	12,267	12,965			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	132	132	136	142	149	158			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(35)	(35)	(36)	(38)	(40)	(42)			
Royalty Income After Tax	0	97	97	100	104	110	116			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			96.75	92.06	88.92	86.65	84.78	449	2077	2526
Total Brand Value								6271	24361	29633

	2012	2013	2014	2015	2016	2017	2018	Explicit	Perpetuity	NPV
Brand Valuation - Agriculture (City only)										
GRDP		324	342	367	398	437	481			
Royalty Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%			
Royalty Income	0	3	3	4	4	4	5			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(1)	(1)	(1)	(1)	(1)	(1)			
Royalty Income After Tax	0	2	3	3	3	3	4			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			2.50	2.48	2.49	2.54	2.58	13	63	76
Brand Valuation - Industry (City only)										
GRDP	0	21,274	21,404	22,185	23,329	24,757	26,242			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	255	257	266	280	297	315			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(88)	(88)	(71)	(74)	(79)	(83)			
Royalty Income After Tax	0	188	189	196	206	218	231			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			187.75	180.15	175.37	172.29	169.06	885	4142	5027
Brand Valuation - Transport, storage, information & comm services (City only)										
GRDP	0	12,740	12,647	12,908	13,370	13,969	14,666			
Royalty Rate	8.6%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	153	152	155	160	168	176			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(41)	(40)	(41)	(43)	(44)	(47)			
Royalty Income After Tax	0	112	112	114	116	123	129			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			110.94	104.82	100.51	97.22	94.48	508	2315	2823
Brand Valuation - Financial & business services (City only)										
GRDP	0	43,653	43,634	44,835	46,783	49,272	52,168			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	524	524	538	561	591	626			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(139)	(139)	(143)	(149)	(157)	(168)			
Royalty Income After Tax	0	385	385	395	413	435	460			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			382.74	364.07	351.88	342.89	336.09	1777	8235	10012
Brand Valuation - Consumer services (City only)										
GRDP	0	17,610	17,563	18,054	18,797	19,689	20,786			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	211	217	226	236	249	262			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(56)	(56)	(57)	(60)	(63)	(66)			
Royalty Income After Tax	0	155	155	159	166	174	183			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			154.05	146.80	141.30	137.02	133.91	713	3261	3994
Brand Valuation - Public services (City only)										
GRDP	0	21,229	21,111	21,564	22,379	23,460	24,892			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	255	253	259	269	282	296			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(68)	(67)	(69)	(71)	(75)	(79)			
Royalty Income After Tax	0	187	186	190	197	207	218			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			185.18	175.11	168.23	163.26	159.08	851	3898	4748
Brand Valuation - Other (City only)										
GRDP	0	10,877	10,867	11,170	11,654	12,267	12,965			
Royalty Rate	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%			
Royalty Income	0	131	130	134	140	147	156			
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%			
Less: Taxation	0	(35)	(35)	(36)	(37)	(39)	(41)			
Royalty Income After Tax	0	96	96	99	103	108	114			
Discount Factor			1.006	1.086	1.173	1.267	1.369			
Discounted Royalty Earnings			95.32	90.70	87.60	85.37	83.53	443	2047	2489
Total Brand Value								5189	23980	29169

Appendix "I": Certificate of Expert's Duty

I, Edgar Baum, of Toronto, Ontario, have been engaged on behalf of the City of Vancouver to provide evidence in relation to Trans Mountain Pipeline ULC's Trans Mountain Expansion Project application currently before the National Energy Board.

In providing evidence in relation to the above-noted proceeding, I acknowledge that it is my duty to provide evidence as follows:

1. to provide evidence that is fair, objective, and non-partisan;
2. to provide evidence that is related only to matters within my area of expertise; and
3. to provide such additional assistance as the tribunal may reasonably require to determine a matter in issue.

I acknowledge that my duty is to assist the tribunal, not act as an advocate for any particular party. This duty to the tribunal prevails over any obligation I may owe any other party, including the party on whose behalf I am engaged.

Date: May 21, 2015

Signature: 