

The Value of Certified Pre-Owned Vehicles for Lexus of Edmonton

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Abstract

Our objective was to discover productive improvements to Lexus of Edmonton's (LoE) current Certified Pre-Owned (CPO) Vehicle practices by determining if CPO vehicles added value, and if so, what value was added. By utilizing multiple methods, we discovered areas in the used vehicle sector that Lexus of Edmonton could improve on. In order to conduct our research, we conducted five in-depth interviews, reviewed scholarly article evaluations, had meetings with the representatives of Lexus of Edmonton, and conducted surveys using paper, email, and social media tools such as Google surveys, Twitter and Facebook. These methods allowed our group to utilize statistical analysis to outline the importance of relationships between variables with the statistical software, SPSS. With the information received from statistical analysis, we believe that Lexus of Edmonton can succeed with the sale of CPO vehicles by following our recommendations: certification education, appropriate pricing of used vehicles, building trust, value-added certification benefits based on willingness to spend and targeted demographics, as well as further research.

Keywords: customer service, automobile industry, pre-owned, used dealership, luxury dealership, Certified Pre-owned vehicles, warranty, marketing, advertising, gender, vehicle financing, used car certification, young consumer finances, Lexus, brand awareness, brand perception

I. Problem Definition

LoE has continued to lead the market in the industry of automobiles within Edmonton. With a manufacturer's certified pre-owned process already in place for all used vehicles, LoE is considering remodeling the certification of pre-owned vehicles to cover all used vehicles, seeking to add what is most important to customers. When interviewing LoE, the management problem was whether or not certified pre-owned vehicles added value to luxury dealerships. The marketing research problem was to determine how CPO vehicles benefit consumer needs through awareness, finances, and overall standing in our present-day economy. In redefining the marketing research problem, we want to determine what specific value meant to customers and if the value was an investment worth making for Lexus of Edmonton.

Tasks completed included five in-depth interviews with potential customers, an analysis of over 20 academic sources, two white papers, a paper including vital statistics, research on the value of marketing research, and an in-depth interview with LoE. Further online questionnaires were conducted after examining qualitative research findings. We surveyed 128 respondents who gave us relevant information and statistics that supported our research findings. 21 of those respondents were over the age of 25; they were removed from the SPSS statistical analysis, as they are not relevant to our targeted market of ages 25 and under.

Our intent is to gain a greater understanding if and how CPO vehicles benefit consumer needs through finances, awareness, and overall standing in today's society. We were provided with information to create marketing strategies that will be used by car dealerships to promote and increase the success of pre-owned inventory. We can use this information to provide constructive feedback to Lexus of Edmonton on what is valued in certified pre-owned vehicles and if it is worth pursuing.

II. Analytical Framework of the Marketing Research Problem

Based on our literature review and qualitative research analysis, we were able to summarize the two problems we



presented: the perspective of the marketing researcher, and the perspective of management. The marketing research problem was to see if and how CPO vehicles benefit consumer needs through awareness, finances, and overall standing in our present-day economy. The management problem was if it added value to the dealership and if it is an investment worth making.

Figure 1: Does CPO Add Value for Customers

In terms of redefining the marketing research problem, we realized the importance of customer awareness, affordability, and desired certification features for our targeted market.

The four main issues we researched are as follows:

- Current awareness of Lexus and Certified Pre-owned vehicles
- Customer service
- Overall marketing strategies of Certified Pre-owned vehicles in luxury dealerships as a whole
- Financing of Certified Pre-Owned vehicles

Research Questions and Hypothesis

Question 1: What does certification mean to used-car customers?

Hypothesis: Based on the in-depth interviews we conducted in our initial report, we hypothesize the majority of consumers have varied knowledge on what certification means (Jones, 1997; Lewis, 2015; Nemtuda, 2013; Peters, 2002; Sawyers & Treece, 2016; Sultan, 2010).

Question 2: How likely will consumers purchase a pre-owned vehicle over a new vehicle?

Hypothesis: We hypothesize that consumers who identify as female are the most likely to purchase a used car over a brand-new vehicle, based off in-depth interviews.

Question 3: Do consumers believe there are benefits of a Certified Pre-Owned Vehicle opposed to a regular pre-owned vehicle?

Hypothesis: Based on our in-depth interviews, we discovered the term “certified” suggested supremacy over non-CPO vehicles, regardless of what is known about certification. We hypothesize that the majority of the targeted market are willing to purchase a CPO vehicle over a regular pre-owned vehicle, regardless of their level of certification knowledge

(Jones, 1997; Lewis, 2015; Nemtuda, 2013; Peters, 2002; Sawyers, 2010; Sawyers & Treece, 2016; Sultan, 2010).

Question 4: How much are consumers willing to spend on a purchase of a certified pre-owned vehicle?

Hypothesis: Based on our exploratory research, we predict consumers are willing to spend an average of \$15,000 - \$20,000 on CPO vehicles. We hypothesize that students will purchase used vehicles that are mid-priced (Busse, Knittel & Zettelmeyer, 2013; Fan & Burton, 2005; McDonald, 2012; Peterson & Schneider, 2014; Sawyers, 2010; Shipp, 2013; Strautmanis & Hermanis, 2013).

Question 5: How much would consumers pay overall for a Certified Pre-Owned including their preferred features?

Hypothesis: After conducting in-depth interviews and exploratory research, we hypothesize that consumers will pay higher amounts for CPO vehicles that their preferred features. Additionally, we hypothesize consumers will pay more for four features, based on the in-depth interviews: a vehicle with less than 80,000 kilometers, one-year end to end warranty, CarProof verification, and one that was made within the last 7 years (Busse, Knittel & Zettelmeyer, 2013; Cristian & Nicoleta, 2011; Mcdonald, 2012; Peters, 2002; Peterson & Schneider, 2014; Sawyers, 2010; Shipp, 2013; Strautmanis & Hermanis, 2013).

Question 6: Will gender affect preference in paying more for used over certified pre-owned vehicles if the CPO costs more?

Hypothesis: Through secondary and exploratory research, we predict that gender will directly affect willingness to pay more for CPO. We hypothesize that males are willing to spend more money than females when purchasing a CPO over a used one (Lacetera, Pope, & Sydnor, 2012; Shipp, 2013).

Question 7: What would consumers like to see when advertising certified pre-owned vehicles to their customers?

Hypothesis: Secondary research revealed different advertising methods appealed to raising brand awareness (Barkholz, 2015; Chappell, 2015; Hsiao, Hsu, & Fang, 2014; Mattera, Baena, & Cerviño, 2012; Zarantonello, Schmitt & Jedidi, 2014). Based on the in-depth interviews we conducted, we hypothesize that consumers prefer higher certification points advertised, even if they do not know what the points cover.

Question 8: Do consumers who trust Lexus of Edmonton value certified and non-certified pre-owned vehicles equally?

Hypothesis: Exploratory research predicts when trust is low, there may be a difference between value of certified versus noncertified (Ažman & Gomišček, 2014; Confente & Russo, 2015). After analysis of in-depth interviews, we found respondents were concerned with the low level of trust they had towards dealerships due to the fact that consumers feel like dealerships only want their money.

Question 9: Does trust in Lexus of Edmonton increase consumers' willingness to pay more for a Certified Pre-owned Vehicle?

Hypothesis: We hypothesize where high levels of trust exist, consumers are willing to spend more on certified vehicles (Ažman & Gomišček, 2014; Confente & Russo, 2015). Our in-depth interviews suggested that trust is important when customers make final decision in purchasing a used CPO vehicle.

Question 10: Do consumers trust Lexus of Edmonton in selling them a certified pre-owned dealership?

Hypothesis: Based on our secondary research, the correlation between the satisfaction level and trust rating is positive; satisfied customers tend to be more trusting (Ažman & Gomišček, 2014; Confente & Russo, 2015). We predict the

majority of consumers will purchase a certified pre-owned vehicle from a dealership they trust.

III. Descriptive Research Design

Data Collection

We first identified the problem Lexus of Edmonton presented by interviewing the Dealer Principal and General Manager. With the use of secondary research, we completed a literature review to help support the research problem identified. Five in-depth interviews were held in order to formulate an analysis, identifying areas we believe would assist Lexus of Edmonton. We developed an anonymous survey to collect our data, totaling 128 responses. The majority of responses were gathered online through the shared questionnaire via email, Facebook, Twitter and Instagram, with the majority of responses coming from Facebook. Based on the targeted market segment, we believed Facebook would be the most effective method in data collection. Additional responses came from a class at MacEwan University who filled out a hard copy of the questionnaire. For the purpose of this study we used 107 of the respondents who identified as being of the age of 25 and under (the additional 21 were not in our targeted market).

Table 1: Respondent Demographics

Variables	# of Respondents		% of Respondents
<u>Gender</u>			
Female	42		39.3%
Male	61		57.0%
Prefer Not to Answer	4		3.7%
<u>Total Responses</u>	107		100.0%
	Responses		% Of Cases
<u>Current Occupation</u>	N	Percent	
Full Time	12	8.4%	11.2%
Unemployed	2	61.5%	82.2%
Student	88	1.4%	1.9%
Part Time	41	28.7%	38.3%
<u>Total Responses</u>	143	100.0%	133.6%

Development, Pre-test and Execution of the Questionnaire

We met on a bi-weekly basis in order to compile the questionnaire. Pre-testing was done with a university marketing class, presenting evaluations and recommendations, which assisted us in identifying slight issues with question comprehension. Following this analysis, we presented LoE with the questionnaire in order to receive insight to make additional minor adjustments where needed.

Ethical Issues

Respondents were presented with a consent form approved by the research ethics board, and were allowed to terminate the survey at anytime. Due to the anonymity of the online survey, there could be potential issues with complete honesty or falsification within the survey responses. As the survey was presented on a public domain, responses may be compromised based on what respondents value, or their intent as to why they chose to participate in the study. Overall, there were no ethical issues on the survey we conducted.

IV. Data Analysis and Results

Plan of Data

We conducted four Analysis of Variance (ANOVA) tests, two multiple response cross-tabulations, three cross tabulations analysis of Chi-Square Tests, and one Pearson correlation analysis. We used univariate and bivariate techniques to further study key variables. ANOVA tests were conducted in order to compare the trust consumers have in the Lexus of Edmonton' pre-owned dealership, the value of Certified Pre-Owned over non-certified, consumer willingness to pay for a Certified Pre-owned vehicle, and level of satisfaction with Lexus of Edmonton. Cross-tabulations and multiple response cross-tabulations were selected to discover relationships between variables. We discovered relationships between customer's CPO preference and knowledge of what a CPO

vehicle is, and the relationship between customer's likelihood to purchase used vehicles and current occupation.

We also performed bivariate analysis with cross-tabulations to determine the best advertising technique to engage the 25 and under market. Using Chi-Square tests, we were able to relate variables in order to support or negate our hypotheses. We recoded questions 1, 4, 5 and 12 in order to ensure proper placement of the variables analyzed.

The goal of our marketing research was determining if CPO vehicles added value to Lexus of Edmonton, and if so, what consumers considered valuable. We discovered many positive correlations and information that assisted us in determining next steps for Lexus of Edmonton's Certified Pre-Owned vehicle market.

Results

Question 1: What does certification mean to used-car customers?

Using univariate analysis, Table 2 shows that 68.2% of those surveyed knew what a certified pre-owned vehicle was, while 31.8% did not. Preferences for what should be included in a certified pre-owned vehicle varied (Table 3), with "less than 80K kilometers" (17.4%) leading, followed by "CarProof verification* includes accident report, recall, liens, etc." (14.9%), and "made within the last 7 years" and "one year end-to-end warranty" tied at 14.5% each.

Table 2: Customers' Knowledge of What a Certified Pre-owned Vehicle Is

Variable	# of Respondents	% of Respondents
No	34	31.8%
Yes	73	68.2%
Total	107	100.0%

Table 3: Customers' Preference as to what should be Included in a Certified Pre-owned Vehicle

Variable	# of Respondents	% of Respondents
4 months/40K km Powertrain and Roadside Assistance coverage	52	10.0%
CarProof verification* includes accident report, recall, liens, etc.	77	14.9%
Complimentary oil & filter service	49	9.5%
Enrollment with dealership exclusives, including private events, free rentals, and VIP services	32	6.2%
Five/Ten (5-10) day/1500 km (whichever comes first) grace period for swap or trade	45	8.7%
Full tank of gas	22	4.2%
Made within the last 7 years	75	14.5%
One year end-to-end warranty	75	14.5%
Less than 110K kilometers	1	0.2%
Less than 80K kilometers	90	17.4%
Total	518	100.0%

We observed through multiple response cross-tabulation (Table 4) that regardless of the level of certification knowledge,

consumers preferred similar variables, differing in order of value. Consumers who have no certification knowledge (31.9%) prefer less than 80K (5.4%), followed by made within the last 7 years (5.2%), CarProof verification (4.6%), and one-year end-to-end warranty (4.4%). Consumers who have certification knowledge (68.1%) prefer less than 80K (12.0%), followed by CarProof verification (10.2%), one-year end-to-end warranty (10.0%), and made within the last 7 years (9.3%). Based on the above information, we fail to reject the Ho.

Table 4: Multiple Response Cross Tabulation Between Customer's CPO Preference and Knowledge of What a CPO Vehicle is

		Certification Knowledge		Total	
		No	Yes		
CPO Preferred Options	4 months/40K km Powertrain and Roadside Assistance coverage	Count	17	35	52
		% within \$options	32.7%	67.3%	
		% of Total	3.3%	6.8%	10.0%
CarProof verification* includes accident report, recall, liens, etc.		Count	24	53	77
		% within \$options	31.2%	68.8%	
		% of Total	4.6%	10.2%	14.9%
Complimentary oil & filter service		Count	10	39	49
		% within \$options	20.4%	79.6%	
		% of Total	1.9%	7.5%	9.5%
Enrollment with dealership exclusives, including private events, free rentals, and VIP services		Count	10	22	32
		% within \$options	31.3%	68.8%	
		% of Total	1.9%	4.2%	6.2%
Five/Ten (5-10) day/1500km (whichever comes first) grace period for swap or trade		Count	19	26	45
		% within \$options	42.2%	57.8%	
		% of Total	3.7%	5.0%	8.7%
Full tank of gas		Count	7	15	22
		% within \$options	31.8%	68.2%	
		% of Total	1.4%	2.9%	4.2%
Made within the last 7 years		Count	27	48	75
		% within \$options	36.0%	64.0%	
		% of Total	5.2%	9.3%	14.5%
One year end-to-end warranty		Count	23	52	75
		% within \$options	30.7%	69.3%	
		% of Total	4.4%	10.0%	14.5%
Less than 110K kilometers		Count	0	1	1
		% within \$options	0.0%	100.0%	
		% of Total	0.0%	0.2%	0.2%
Less than 80K kilometers		Count	28	62	90
		% within \$options	31.1%	68.9%	
		% of Total	5.4%	12.0%	17.4%
Total		Count	165	353	518
		% of Total	31.9%	68.1%	100.0%

Question 2: How likely will consumers purchase a pre-owned vehicle over a new vehicle?

Table 5 shows univariate analysis, revealing that 48.6% of respondents are “Very Likely” or “Likely” to purchase a certified-vehicle over a non-certified vehicle, whereas as 17.8% were “Unlikely” or “Very Unlikely”.

Table 5: Customers Likelihood of Purchasing a Pre-owned Vehicle Over a New Vehicle

Variable	# of Respondents	% of Respondents
Very Likely	21	19.6%
Likely	31	29.0%
Somewhat Likely	30	28.0%
Unlikely	8	7.5%
Very Unlikely	11	10.3%
Total	101	94.4%

Based on Table 6 and 7 ANOVA results with 1 being very likely and 5 being very unlikely, females are more likely to purchase a pre-owned vehicle over males. Therefore, we fail to reject the H_0 .

Table 6: ANOVA Between Customer’s Likelihood to Purchase a Used Vehicle and Gender

ANOVA								
Likelihood to Purchase a Used Vehicle and Gender								
		Sum of Squares	df	Mean Square	F	Sig.		
	Between Groups	20.765	1	20.765	15.545	.000		
	Within Groups	126.905	95	1.336			um	
F	Total	147.670	96				5.00	
Mean	97	2.5045	1.25011	.11194	2.0219	3.5000	1.00	5.00
Total	97	2.5773	1.24025	.12593	2.3274	2.8273	1.00	5.00

Table 7: ANOVA

Question 3: Do consumers believe there are benefits of a Certified Pre-Owned Vehicle, opposed to a regular pre-owned vehicle?

Through univariate analysis (Table 8), we found that 82.2% of respondents are willing to purchase a CPO over a non-CPO vehicle.

Table 8: Customers Willingness to Purchase a Certified Pre-Owned Vehicle Over a Non-Certified Pre-Owned Vehicle

Variable	# of Respondents	% of Respondents
No	19	17.8%
Yes	88	82.2%

Total	107	100.0%
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We used cross-tabulation (Table 9) and chi-square (Table 10) to explore the relationship between variables. We concluded there is a positive correlation between consumers who have certification knowledge and willingness to purchase a CPO over a non-CPO (89.0%). While smaller, there is still a positive correlation between consumers who have no certification knowledge and willingness to purchase a CPO over a non-CPO (67.6%). There is a relation between these two variables. Therefore, we fail to reject the Ho.

Table 9: Cross Tabulation Between Consumers Certification Knowledge and Willingness to Purchase CPO Over Non-CPO Vehicles

			Willingness to purchase CPO over non-CPO		Total
			No	Yes	
Certification Knowledge	No	Count	11	23	34
		Expected Count	6.0	28.0	34.0
		% Certification Knowledge	32.4%	67.6%	100.0%
	Yes	Count	8	65	73
		Expected Count	13.0	60.0	73.0
		% Certification Knowledge	11.0%	89.0%	100.0%
Total		Count	19	88	107
		Expected Count	19.0	88.0	107.0
		% Certification Knowledge	17.8%	82.2%	100.0%

Table 10: Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.270 ^a	1	.007
Continuity Correction ^b	5.879	1	.015
Likelihood Ratio	6.814	1	.009
Fisher's Exact Test			
Linear-by-Linear Association	7.202	1	.007
N of Valid Cases	107		

Question 4: How much are consumers willing to spend on a purchase of a certified pre-owned vehicle?

Univariate Analysis in Table 11 shows that 30.8% of respondents are willing to spend over \$20,000 and 26.2% are willing to spend \$10,000 - \$15,000 on a pre-owned vehicle.

Table 11: Amount Customer is Willing to Spend on a Pre-owned Vehicle

Variable	# of Respondents	% of Respondents
Below \$10,000	6	5.6%
\$10,000 - \$15,000	28	26.2%
\$15,001 - \$20,000	21	19.6%
Over \$20,000	33	30.8%
I would not purchase a pre-owned vehicle	18	16.8%
Total	106	99.1%

Using ANOVA to look at Customer's Willingness to Purchase Pre-Owned Vehicle and Willingness to Pay for a Pre-Owned

Vehicle (Table 12 and 13), we fail to reject the Ho, as consumers who are willing to purchase a used vehicle are motivated to spend \$15,000 - \$20,000 on the purchase of a pre-owned vehicle.

Table 12: ANOVA Between Customer’s Willingness to Purchase Pre-Owned Vehicle and Willingness to Pay for a Pre-Owned Vehicle

Table 13: ANOVA Customer’s Willingness to Purchase Pre-Owned Vehicle and

Descriptives								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
\$15,000 or less	32	3.0000	1.10716	.19572	2.6008	3.3992	1.00	5.00
\$15,001 - \$20,000	20	2.2000	1.00525	.22478	1.7295	2.6705	1.00	5.00
Over \$20,000	30	2.3333	1.37297	.25067	1.8207	2.8460	1.00	5.00
I would not purchase a pre-owned vehicle	18	2.5556	1.19913	.28264	1.9592	3.1519	1.00	5.00
Total	100	2.5600	1.21705	.12171	2.3185	2.8015	1.00	5.00

Willingness to Pay for a Pre-Owned Vehicle

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.329	3	3.443	2.425	.070
Within Groups	136.311	96	1.420		
Total	146.640	99			

Question 5: How much would consumers pay overall for a Certified Pre-Owned which includes their preferred features? Other preferred features that respondents desired included 24-hour tech support, a better warranty, and complimentary maintenance (Table 14). Univariate analysis in Table 15 reveals that 36.4% are willing to pay \$1000 - \$1999 more on a CPO over a non-CPO Vehicle, and 25.2% were willing to spend under \$999.

Table 14: Other Options Customers Would Like to See Included in a Certified Pre-owned Vehicle

Variable	# of Respondents	% of Respondents
1-year maintenance free and oil change for life	1	.9%
24-hour Tech support	1	.9%
A better warranty	1	.9%
Coffee and biscuits	1	.9%
Complimentary maintenance	1	.9%
Discounted prices for scratch/rock chip repair	1	.9%
Last tire changes especially for winter tires. Many people do not include that when selling pre-owned vehicles.	1	.9%
Leather seats	1	.9%
New tires, repairs up to date	1	.9%
Sun roof	1	.9%
Timing belts, oil changes, new tires, new mats, anything to make the old ride look like a new one.	1	.9%
Tires or other features like them.	1	.9%
Warranty from dealership	1	.9%
Total	13	12.1%

Table 15: Amount Customer Willing to Spend For a Certified Pre-Owned Over a Non-Certified Pre-Owned Vehicle

Variable	# of Respondents	% of Respondents
Under \$999	27	25.2%
\$1000 - \$1999	39	36.4%
\$2000 - \$2999	14	13.1%
\$3000 - \$3999	3	2.8%
\$4000 +	8	7.5%
I would not purchase a pre-owned vehicle	3	2.8%
I would not spend more on a certified pre-owned vehicle	13	12.1%
Total	107	100.0%

After we conducted and analyzed the multiple response cross tabulation (Table 16), we determined that consumers were willing to pay more for their preferred features. Complimentary oil & filter service and made within last 7 years will increase percentage of people willing to pay \$15000 or less. CarProof verification will do so for those who are willing to pay \$15,001 - \$20,000. Enrollment with dealership exclusives Five/Ten (5-10) day grace period and Full tank of gas will increase percentage of people willing to pay over \$20,000. Therefore, we fail to reject the Ho.

Table 16: Multiple Response Cross Tabulation between Customer's Willingness to Purchase Used Vehicle and CPO feature Preferences

CPO Preferred Options and Willingness to Pay Overall Collapsed Crosstabulation						
			Willingness to Pay Overall Collapsed			Total
			\$15,000 or less	\$15,001 - \$20,000	Over \$20,000	
CPO Preferred Options	4 months/40K km Powertrain and Roadside Assistance coverage	Count	12	10	16	38
		% within CPO Preferred Options	31.6%	26.3%	42.1%	
	CarProof verification* Includes accident report, recall, liens, etc.	Count	21	19	24	64
		% within CPO Preferred Options	32.8%	29.7%	37.5%	
	Complimentary oil & filter service	Count	18	12	12	42
		% within CPO Preferred Options	42.9%	28.6%	28.6%	
	Enrolment with dealership exclusives, including private events, free rentals, and VIP services	Count	7	4	11	22
		% within CPO Preferred Options	31.8%	18.2%	50.0%	
	Five/Ten (5-10) day/1500km (whichever comes first) grace period for swap or trade	Count	13	8	19	40
		% within CPO Preferred Options	32.5%	20.0%	47.5%	
	Full tank of gas	Count	6	2	9	17
		% within CPO Preferred Options	35.3%	11.8%	52.9%	
Made within the last 7 years	Count	25	16	20	61	
	% within CPO Preferred Options	41.0%	26.2%	32.8%		
One year end-to-end warranty	Count	18	17	24	59	
	% within CPO Preferred Options	30.5%	28.8%	40.7%		
Less than 110K kilometers	Count	0	1	0	1	
	% within CPO Preferred Options	0.0%	100.0%	0.0%		
Less than 80K kilometers	Count	28	19	24	71	
	% within CPO Preferred Options	39.4%	26.8%	33.8%		
Total		Count	148	108	159	415
			35.7%	26%	38.3%	
Percentages and totals are based on responses.						
a. Group						

Question 6: Will gender affect their preference paying more for used over certified pre-owned vehicles if the CPO costs more?

Cross-tabulation results in Table 17 and chi-square test in Table 18 indicate there is a positive correlation between total amount of consumers and willingness to pay \$1000 - \$1999 for a CPO vehicle over a non-CPO (42.9%). Additionally, 64.1% of males chose, while only 33.3% of females chose \$1000 - \$1999, preferring to spend \$999 and Under (37.0%). Therefore, we fail to reject the Ho.

Table 17: Cross Tabulation between Willingness to Pay more for CPO over non-CPO Vehicles and Gender

			Gender			Total
			Female	Male	Prefer not to answer	
Willingness to Pay More for CPO	Under \$999	Count	10	17	0	27
		% within Pay More for CPO	37.0%	63.0%	0.0%	100.0%
		% within Gender	28.6%	32.7%	0.0%	29.7%
	\$1000 - \$1999	Count	13	25	1	39
		% within Pay More for CPO	33.3%	64.1%	2.6%	100.0%
		% within Gender	37.1%	48.1%	25.0%	42.9%
	\$2000 +	Count	12	10	3	25
		% within Pay More for CPO	48.0%	40.0%	12.0%	100.0%
		% within Gender	34.3%	19.2%	75.0%	27.5%
	Total	Count	35	52	4	91

Table 18: Chi- Square Test

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.422 ^a	4	.115
Likelihood Ratio	7.700	4	.103
Linear-by-Linear Association	.006	1	.937
N of Valid Cases	91		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.10.

Question 7: What would consumers like to see when advertising certified pre-owned vehicles to their customers?

Table 19 univariate analysis shows that 27.1% of respondents found CarProof verification certified pre-owned vehicle advertising the most appealing, followed by Lexus of Edmonton certified pre-owned vehicle (26.2%), and 210-point check certified pre-owned vehicle (19.6%). The preferred method for communications was text at 34.6%, followed closely by email at 32.7% (Table 20).

Table 19: Advertisements Most Appealing to Customers

Variable	# of Respondents	% of Respondents
131-point check certified pre-owned vehicle	6	5.6%
210-point check certified pre-owned vehicle	21	19.6%
CarProof verification certified pre-owned vehicle	29	27.1%

Variable	# of Respondents	% of Respondents
Lexus of Edmonton certified pre-owned vehicle	28	26.2%
None of these appeal to me	21	19.6%
Total	105	98.1%

Table 20: Customers Preferred Method of Contact for Communication

Variable	# of Respondents	% of Respondents
Email	35	32.7%
Phone Call	25	23.4%
Text	37	34.6%
Total	97	90.7%

Based on cross-tabulation and chi-square test (Table 21 and 22), results show that consumers care most about advertising CPO vehicles with CarProof verification (27.6%), followed closely by a CPO vehicle featured with Lexus of Edmonton (26.7%). Consumers with certification knowledge are positively correlated with CPO vehicles being sold at Lexus of Edmonton (31.9%) initially seen in advertisements. Respondents unknowledgeable in certification tied in preference with certification points (12.1% each). We can reject our Ho. Advertisements showing 210-point check, CarProof and Lexus of Edmonton would work well together.

Table 21: Cross Tabulation Between Consumers Certification Knowledge and Desired Advertising

			Desired Advertising					Total
			131 point check certified pre-owned vehicle	210 point check certified pre-owned vehicle	CarProof verification certified pre-owned vehicle	Lexus of Edmonton certified pre-owned vehicle	None of these appeal to me	
Certification Knowledge	No	Count	4	4	8	5	12	33
		Expected Count	1.9	6.6	9.1	8.8	6.6	33.0
		% within Certification Knowledge	12.1%	12.1%	24.2%	15.2%	36.4%	100.0%
	Yes	Count	2	17	21	23	9	72
		Expected Count	4.1	14.4	19.9	19.2	14.4	72.0
		% within Certification Knowledge	2.8%	23.6%	29.2%	31.9%	12.5%	100.0%
Total	Count	6	21	29	28	21	105	
	Expected Count	6.0	21.0	29.0	28.0	21.0	105.0	
	% within Certification Knowledge	5.7%	20.0%	27.6%	26.7%	20.0%	100.0%	

Table 22: Chi-Square Test

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.986 ^a	4	.007
Likelihood Ratio	13.513	4	.009
Linear-by-Linear Association	.921	1	.337
N of Valid Cases	105		

Question 8: Do consumers who trust Lexus of Edmonton value certified and non-certified pre-owned vehicles equally?

Based on Table 23, univariate analysis shows that 55.1% of respondents had never been to Lexus of Edmonton dealership. 35.5% of the 44.9% of those who had been to the dealership were Very Satisfied or Somewhat Satisfied with the dealership’s customer service, as seen in Table 24.

Table 23: Amount of Customers Who Have Been to the Lexus of Edmonton Dealership

Variable	# of Respondents	% of Respondents
No	59	55.1%
Yes	48	44.9%
Total	107	100.0%

Table 24: Customers Level of Satisfaction with Lexus of Edmonton’s Customer Service

Variable	# of Respondents	% of Respondents
Very Satisfied	21	19.6%
Somewhat Satisfied	17	15.9%
Neither Satisfied or Dissatisfied	7	6.5%
Somewhat Dissatisfied	1	.9%
Very Dissatisfied	2	1.9%
Total	48	44.9%

An ANOVA analysis in Table 25 and 26 was used for Consumers’ Trust with Lexus of Edmonton and Willingness to Purchase CPO over non-CPO Vehicles. A significant difference between the yes and no responses regarding the trust of Lexus

of Edmonton’s pre-owned dealership is not evident. We fail to reject the Ho. Those who have knowledge of certified pre-owned tend to trust dealerships more than those who do not have knowledge of certified pre-owned.

Table 25: ANOVA for Consumers’ Trust with Lexus of Edmonton and Willingness to Purchase CPO over non-CPO Vehicles

Table 26: ANOVA

Descriptives

Scale 1-5 with 1 being ‘no trust’ and 5 being ‘complete trust’

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
No	34	3.00	.853	.146	2.70	3.30	1	5
Yes	73	3.56	1.178	.138	3.29	3.84	1	5
Total	107	3.38	1.113	.108	3.17	3.60	1	5

Scale 1-5 with 1 being ‘no trust’ and 5 being ‘complete trust’

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.317	1	7.317	6.197	.014
Within Groups	123.973	105	1.181		
Total	131.290	106			

Question 9: Does trust in Lexus of Edmonton increase consumers’ willingness to pay more for a Certified Pre-owned Vehicle?

Based on the ANOVA results for Consumers Trust with Lexus of Edmonton and Willingness to Pay more for Certified Pre-Owned Vehicle (Table 27 and 28), there is no relationship between incremental price points and trust. Therefore, we reject the Ho.

Table 27: ANOVA for Consumers Trust with Lexus of Edmonton and Willingness to Pay more for Certified Pre-Owned Vehicle

Table 28: ANOVA

Descriptives

Scale 1-5 with 1 being 'no trust' and 5 being 'complete trust'

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under \$999	27	3.44	.974	.187	3.06	3.83	1	5
\$1000 - \$1999	39	3.33	.982	.157	3.01	3.65	1	5
\$2000 +	25	3.68	.945	.189	3.29	4.07	2	5
Total	91	3.46	.970	.102	3.26	3.66	1	5

Scale 1-5 with 1 being 'no trust' and 5 being 'complete trust'

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.842	2	.921	.979	.380
Within Groups	82.773	88	.941		
Total	84.615	90			

Question 10: Do consumers trust Lexus of Edmonton in selling them a certified pre-owned vehicle?

Univariate analysis shows that on a scale of 1 to 5, with 1 being no trust and 5 being complete trust, 47.7% of respondents chose 4 or 5, trusting Lexus of Edmonton in selling them a used vehicle (Table 29).

Table 29: Customer's Level of Trust in Lexus of Edmonton in Selling Them a Used Vehicle

Variable	# of Respondents	% of Respondents

1 (no trust)	11	10.3%
2	4	3.7%
3	41	38.3%
4	35	32.7%
5 (complete trust)	16	15.0%
Total	107	100.0%

There is a significant relationship between satisfaction with Lexus and Trust, based on the Pearson correlation in Table 30. The coefficient of correlation is negative because trust has an inverse scale (1-no trust to 5-complete trust) compared to satisfaction with Lexus (1-very satisfied to 5-very dissatisfied). This is consistent with our hypothesis that the majority of consumers will purchase a certified pre-owned vehicle from a dealership they trust. We reject the Ho.

Table 30: Pearson correlation for Consumers' Trust and Level of Satisfaction with Lexus of Edmonton

		Scale 1-5 with 1 being 'no trust' and 5 being 'complete trust'	Level Satisfaction with Lexus of Edmonton
Scale 1-5 with 1 being 'no trust' and 5 being 'complete trust'	Pearson Correlation	1	-.636**
	Sig. (2-tailed)		.000
	N	107	48
Q12_recoded	Pearson Correlation	-.636**	1
	Sig. (2-tailed)	.000	
	N	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

V. Conclusions and Recommendations

The objective of the current research problem was to identify if Certified Pre-Owned vehicles added value to Lexus of Edmonton. We conducted two stages of research: secondary and primary. In the first stage, secondary research, we reviewed the literature. The second stage included interviewing Lexus of Edmonton management, in-depth interviews, and surveys. With the use of SPSS, we were able to analyze the data in an effective manner. Analyzing these results, we were able to break down the information into meaningful data that will assist in addressing Lexus of Edmonton's CPO vehicle concern. After analyzing our findings, we recommend the following when dealing with CPO vehicle sales for the 25 and under demographic:

- Lexus of Edmonton should educate used-vehicle consumers on their certified pre-owned program and its benefits, as well as what is included.

- Lexus should price accordingly to their target market, with a focus on pre-owned vehicles in the range of \$15,000 - \$20,000.
- We suggest that LoE should price their CPO vehicles no more than \$1999 over non-CPO vehicles.
- Lexus should consider offering less than 80K, CarProof verification, one-year end-to-end warranty, and made within the last 7 years as the top four options for CPO vehicles. When choosing additional value benefits, we suggest LoE look at what each price market values the most. Complimentary oil & filter service and made within last 7 years are highly marketable for consumers willing to pay \$15000 or less. CarProof verification is highly marketable for consumers willing to pay \$15,001 - \$20,000. Enrollment with dealership exclusives Five/Ten (5-10) day grace period and Full tank of gas are highly marketable for consumers willing to pay over \$20,000.
- Lexus of Edmonton should continue raising its brand awareness by advertising its CPO vehicles with CarProof Verification and the trusted Lexus of Edmonton symbol, for those willing to pay \$15,000 - \$20,000.
- Lexus of Edmonton should continue further marketing research on what platforms their targeted markets interact with. Further marketing research needs to be conducted on how to maximize building consumer trust.

Based on our findings, we believe that CPO vehicles can add value to Lexus of Edmonton if they instill the recommended value-added properties included above. By building trust and listening to the needs of the market, Lexus of Edmonton will continue to be an exemplary luxury dealership.

VI. Limitations

As with any research project, we encountered certain research limitations while conducting exploratory research. The following limitations have been taken into consideration:

1. Accuracy - Anonymous online surveys cannot measure rate of accuracy. This includes age, gender, occupation or location. We cannot guarantee authenticity of responses collected by our questionnaire.
2. Sample size - In further research, with a less constraining time limit, we could have conducted more surveys, which would have led to a larger sample size; therefore, our data would have had a higher degree of variability.

Although accuracy and sample size presented our research with limitations, they are minimal aspects that could have been monitored. After conducting exploratory and secondary research, we are satisfied with the results obtained.

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Appendix Questionnaire

This questionnaire is part of a research project which gathers relevant data and assists Lexus of Edmonton towards improving their current business model within the certified pre-owned vehicle unit. Reading the description and completing the questionnaire indicates that you are giving your informed consent to participate in the study. The consent, however, does not constitute a waiver of legal rights in the event of research-related harm.

Project Title: Do certified pre-owned vehicles add value to Lexus of Edmonton, and if so, is it an investment worth making?

Researchers: 5 Authors, MacEwan University

Purpose of the Research:

The focus of this study is to understand the value of certified pre-owned vehicles for Lexus, with the purpose of gathering relevant data to assist Lexus in making an informed decision on how to proceed with certified pre-owned vehicles.

Procedures

You will be asked to complete a survey concerning certified pre-owned vehicles. You will also be asked to provide your age, gender, and occupation. This survey will take approximately ten minutes. The data collected will remain anonymous and secure. Your participation is voluntary.

Potential Risks

- There are no known or anticipated risks to you by participating in this research.
- A further risk that should be identified is that the time inconvenience taken to complete this questionnaire may be problematic.

Potential Benefits

This project will provide insight to the perceived value of certified pre-owned vehicles. Our study will include the consumer's perception of certified versus non-certified, brand awareness, what adds value, and how much they are willing to spend on a used vehicle. This will provide benefits to Lexus on how to set up a new certification point process that will most effectively engage consumers. We anticipate these interviews will provide information on what adds value when consumers are looking to purchase a used vehicle which will further assist Lexus.

Confidentiality/Anonymity

- We will not collect any identifying information in the survey.

Right to withdraw

- Your participation is voluntary, and you can answer only those questions that you are comfortable with.
- You may withdraw from the research project for any reason, at any time, without explanation or penalty of any sort.
- Whether you chose to participate or not will have no effect on your class standing or how you will be treated.
- Should you wish to withdraw, there will be no penalties associated with it.

Follow up: If you are interested in the results, please contact for a copy of the report once it is completed.

Storage of data

- All data will be stored on the work computer of the principal investigator, which is password protected. Room 5-252E, CCC, MacEwan University.
- When the data is no longer required, the data will be destroyed.

Questions or Concerns about Ethical Conduct:

This project has been approved on ethical grounds by the MacEwan University Research Ethics Board on October 2, 2015. Any questions regarding your rights as a participant may be addressed to the Board at 780-633-3274 or REB@macewan.ca).

Project Title: Lexus of Edmonton Certified Pre-Owned Vehicle Survey

1. Do you consent to participating in this survey, based on the above information? *

Yes No

2. How likely are you to purchase a pre-owned vehicle over a new vehicle?

- Very Unlikely
- Unlikely
- Somewhat Likely
- Likely
- Very Likely

3. Do you know what a certified pre-owned vehicle is?

Yes No

4. Would you prefer to purchase a certified pre-owned vehicle over a non-certified pre-owned vehicle?

Yes No

5. If you found a pre-owned vehicle that met your specifications, how much more would you be willing to spend on a certified over a non-certified?

- Under \$999
- \$1000 - \$1999
- \$2000 - \$2999
- \$3000 - \$3999
- \$4000 +
- I would not spend more on a certified pre-owned vehicle
- I would not purchase a pre-owned vehicle

6. If you found a pre-owned vehicle that met your specifications, how much are you willing to spend overall?

- Below \$10,000
- \$10,000-\$15,000
- \$15,001-\$20,000
- Over \$20,000
- I would not purchase a pre-owned vehicle

7. What would you like to see included in a certified pre-owned vehicle? (choose your top FIVE only)

- Less than 80,000 kilometers
- Made within the last 7 years
- 4 months/40,000km Powertrain and Roadside Assistance coverage
- Full tank of gas
- Complimentary oil & filter service
- Five (5) day/1500km (whichever comes first) grace period for swap or trade
- CarProof verification* includes accident report, recall, liens, etc.
- One-year end-to-end warranty
- Enrollment with dealership exclusives, including private events, free rentals, and VIP services

8. Are there any other options you would like to see included in a certified pre-owned vehicle that were not stated above?

- Yes
- No

(If yes) Please list the options you would like to see included in a certified pre-owned vehicle (Blank)

9. When looking at vehicle advertisements, which of the following most appeals to you?

- 131 point check certified pre-owned vehicle
- Lexus of Edmonton certified pre-owned vehicle
- 210 point check certified pre-owned vehicle
- CarProof verification certified pre-owned vehicle
- None of these appeal to me

10. What is your preferred method of contact for communication?

- Email
- Phone Call
- Text

11. Have you ever been to the Lexus of Edmonton Dealership?

- Yes
- No

(If yes) How would rate your satisfaction level of the Lexus of Edmonton customer service?

- Very Satisfied
- Somewhat Satisfied
- Satisfied
- Somewhat Dissatisfied
- Very Dissatisfied

12. On a scale of 1 to 5, with 1 being 'no trust' and 5 being 'complete trust' how would you rate your trust in Lexus of Edmonton in selling you a used vehicle?

13. What is your gender?

- Male
- Female
- Prefer not to answer

14. What is your current age?

- 25 years or younger
- 26 years or older

15. What is your current occupation?

	1	2	3	4	5	
No, I do not trust dealerships at all	<input type="radio"/>	Yes, I trust them completely				

- Part time
- Full time
- Student
- Retiree
- Unemployed