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Weyburn, SK, S4H 0P5

November 26, 2021

Siobhan Lidder,
Realtor Services Coordinator,
Connie Buna
Managing Broker
3995 Fraser Street,
Vancouver, BC, V5V 4E5

Dear Ms. Lidder and Mrs. Buna,

Attached is my report, Feasibility Analysis for Reducing the Environmental Footprint at Keller Williams Realty VanCentral. This report examines local sources contributing to the issue of deforestation globally. It explains a major contributor to the issue and identifies five actors in the office. Thank you for the leadership you provide the office on green business practices.

Although paper consumption is a daily tool, advances in technology have created opportunities for the Real Estate industry to convert current systems into sustainable practices. I believe the information provided in this report will encourage Keller Williams Realty VanCentral to implement cost-effective changes in order to reduce the environmental footprint.

The purpose of this report is to analyze the feasibility of modifying current systems at the Keller Williams Realty VanCentral office to reduce paper consumption. The data in this report identifies three areas with the opportunity for green alternatives. I hope these recommendations are considered in future business planning.

Please do not hesitate to reach me at 306-458-7115 or email at toman@student.ubc.ca if you have any further questions.

Sincerely,

Tamara A. Oman
Student of ENGL 301 Technical Writing

Feasibility Analysis for Reducing the Environmental Footprint at Keller Williams Realty VanCentral

Prepared for
Siobhan Lidder
Realtor Services Coordinator at the Keller Williams Realty VanCentral office
&
Connie Buna
Managing Broker at the Keller Williams Realty VanCentral office
Vancouver, BC

Prepared by
Tamara Oman
English 301 Student

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ABSTRACT

Deforestation is a growing global concern causing several issues including climate change and contributes an average of 12% to greenhouse gases in the atmosphere. Research shows that the pulp and paper industry is responsible for a major portion of the sources contributing to the issue.

In order to comply with legislative Real Estate standards, Realtors are required to store a substantial amount of documentation for each transaction conducted, and must be available for no less than seven years after their creation. Primary data shows that the majority (67%) of Realtors print these documents and store them in filing boxes, which are then discarded upon completion of the seven year term. Overtime, the accumulation of wasted paper grows exponentially.

With over 130 licenced Realtors conducting their businesses with Keller Williams Realty VanCentral, the consumption of paper products daily is substantially high. Realtors at the office were surveyed to identify paper consumption habits and their motivation to move towards sustainable practices. Additionally, administration members were interviewed in order to identify other sources of paper consumption and the cost of printing paper. The data identified five sources of paper consumption at the brokerage which include:

1. Realtors
2. Market center administration
3. Office management
4. Client care services
5. Kitchen

The analysis identified opportunities for modification for three of the sources. Recommendations to reduce the environmental footprint at the office are:

- Mandating memberships of either DotLoop or Command for submitting transaction documentation.

- Offering free or low cost personal training sessions for both virtual platforms.

- Using certified paper products from ethical brands for printing.

- Using recycled paper for stationary.

- Offering reusable serveware in the kitchen.

Reducing the Environmental Footprint at Keller Williams Realty VanCentral

Tamara A. Oman

INTRODUCTION

Global deforestation causes climate change, desertification, soil erosion, reduced crops and flooding. Deforestation also contributes to 12% of the greenhouse gases in the atmosphere. The World Wildlife Fund shows the fastest rate of forest destruction has been in the last couple of centuries, fifteen billion trees are cut down annually, leaving us with about half the forests on the planet today than there was when humans started to evolve.

Demand for paper products is growing exponentially from an infinite amount of sources including the Real Estate industry. Realty offices use a substantial amount of paper to file and store transaction documentation for each Realtor.   With over 130 Realtors, Keller Williams Realty VanCenral office produces a high level of printing volume.

Thirty Realtors responded to a short survey designed to analyze the current printing habits and perception of online data management methods ath Keller Williams Realty VanCentral.   An analysis of potential costs and revenue was performed to determine the feasibility of converting business systems to online platforms. In addition, four office staff members participated in a short interview designed to understand the current office processing systems as well as to identify other areas of opportunity for reducing the use of paper products.

Upon the analysis of surveys to Realtors and interviews with office administration, this report will assess the potential options for minimizing the environmental footprint of the Keller Williams Realty VanCentral office by (a) identifying sources of paper consumption, (b) identifying

alternative solutions, (c) cost analysis of converting to virtual solutions, and (d) identifying the motivation and probability of conversion to reduce the impact on the environment.

This report covers six major topics: a study of the effects the pulp and paper industry has on deforestation, areas of paper consumption in the office, a study on the volume of printing, an analysis of alternative solutions and cost comparisons, a study on the attitudes towards using virtual platforms and the motivations concerning reducing the environmental footprint.

This report concludes by acknowledging the contribution to deforestation and by recommending an affordable alternative to printing documentation.

DATA SECTION

A.Causes of Deforestation

Deforestation is caused by several factors including agriculture, unsustainable forest management, mining, infrastructure and increased fire incidences. The World Wildlife Fund (WWF) shows that of these causes, agriculture has the highest effects on deforestation. Although the majority of this category includes the clearing of forests for the expansion of farm or ranch lands, WWF states it also includes forest plantations used by pulp and paper companies. Figure 1 illustrates causes of deforestation in Canada alone.
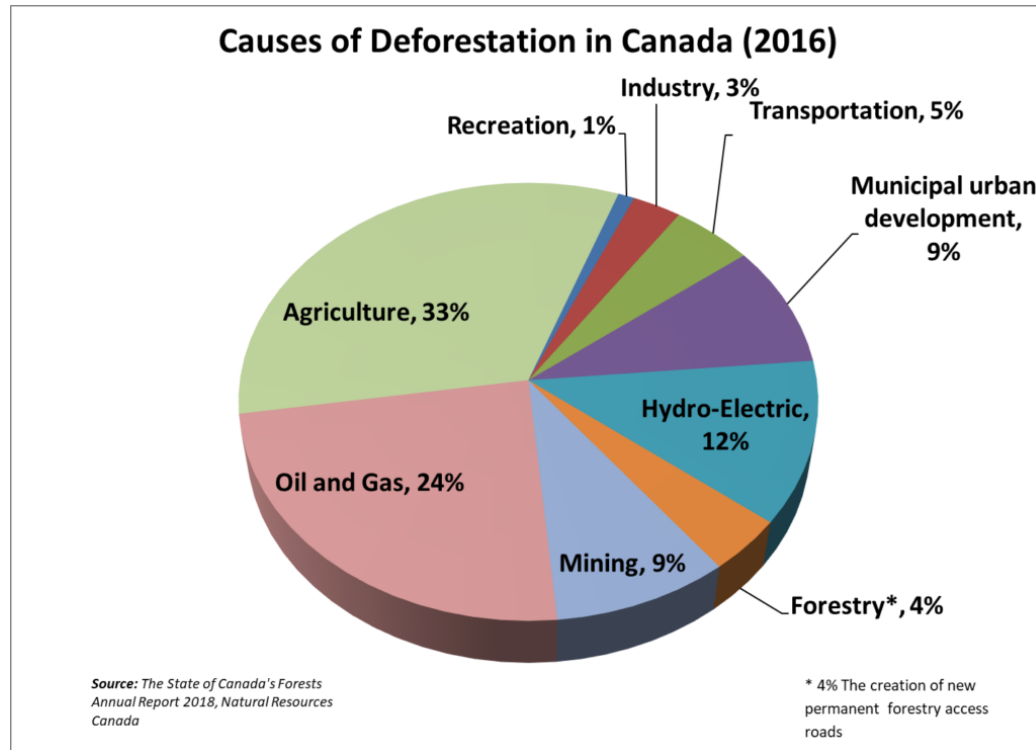
Causes of Deforestation in Canada (2016)

Recreation, 1%
Industry, 3%
Transportation, 5%
Municipal urban development, 9%
Agriculture, 33%
Hydro-Electric, 12%
Oil and Gas, 24%
Mining, 9%
Forestry*, 4%

Source: *The State of Canada's Forests Annual Report 2018, Natural Resources Canada*

* 4% The creation of new permanent forestry access roads

Figure 1 Causes of Deforestation in Canada (2016)

The global consumption of paper has quadrupled over the last fifty years according to Karen Vermeer, the Pulp Finance Coordinator for the Environmental Paper Network. Consequently, the pulp and paper industry increased exponentially. This industry contributes to global deforestation in two major ways:

1. Irresponsible harvesting from natural forests and the establishment of pulp plantations on converted natural forests
2. Interaction with agricultural activities

1. Irresponsible harvesting

Based on studies from the WWF, pulp companies not only harvest trees in temperate regions where forests thrive, they also harvest in tropical and boreal forests. Deforestation of natural forests not only contributes to the global emissions of greenhouse gases, but also threatens

ecosystems and species. Examples of endangered species due to deforestation for the pulp industry include the African Forest Elephant, the Tapanuli Orangutan and the Sunda Tiger.

2. Interaction with agricultural activities

Farmers and pulp companies will trade by clearing land for agricultural purposes while infrastructures are built to process the lumber. Vermeer explains that in turn, the land value increases due to the additional infrastructure and eventually sold by the farmer. Often, the farmer will purchase a larger area of land with the proceeds and the process repeats itself.

B. Sources and Volume of Paper Consumed

Interviews with administration identified five sources of paper consumption in the office and the costs of using paper products for each department varies significantly. Below are the five main sources of paper use at the Keller Williams Realty VanCentral office:

1. Realtors
2. Market center administrator office
3. Office management
4. Client care
5. Kitchen

1. Realtors

When asked about printing habits, the majority of Realtors and their assistants (67%) said documents were printed and stored in filing boxes for each transaction. According to broker statistics, the average Realtor conducts seven transactions per month, additionally buyers write an average of four offers before receiving a firm deal.

- A listing transaction requires approximately forty to fifty pages
- A purchase offer has approximately twenty pages.

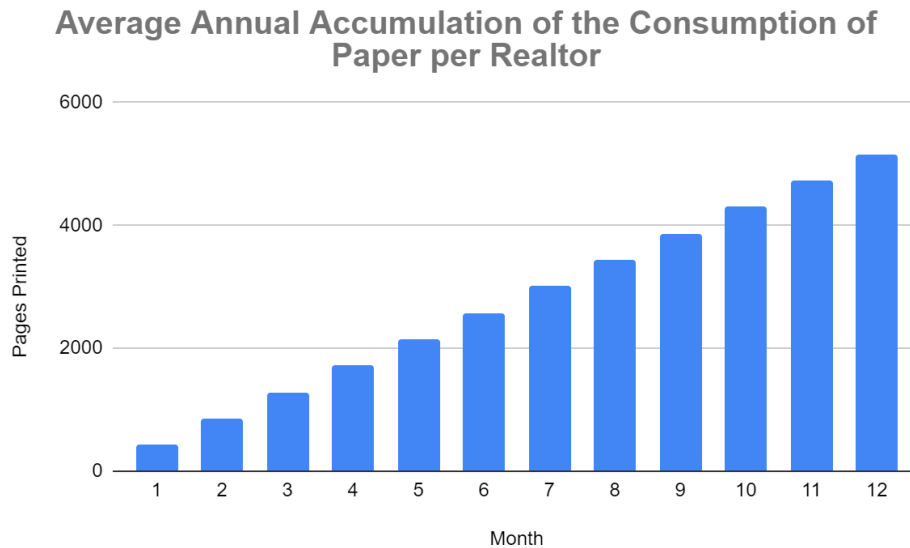On average, Realtors print about four hundred and thirty pages per month or over five thousand pages annually.

Average Annual Accumulation of the Consumption of Paper per Realtor

Figure 2 Average Annual Accumulation of the Consumption of Paper per Realtor

2. Market Center Administrators

An interview with market center administrators itemized human resource contracts, accounts receivable, accounts payable, remittance and other necessary areas of physical documentation as their main sources of paper consumption. When asked how the office processes transactions, it was found that the processing and conveyancing of transactions already involves using one of two virtual platforms (DotLoop and Command). Zero pages are printed for transactions from the market center. Realtors who do not have memberships with these websites must scan each page of their transaction and email it to the market center administrators for processing.

3. Office Management

The sources of printing from office management staff was found to be excellently minimal. The majority of systems in place for this department exist online.

4. Client Care Services

Currently, cards or invitation postcards are ordered via vistaprint on virgin paper. A study by Bucks Digital, a printing company based in Philadelphia, found that in general recycled paper is cheaper than virgin paper and is often impossible to distinguish apart. Recycled paper products are available at many printing companies including Vista Print and UPS which are suppliers already being used by the office. Converting stationary orders to recycled paper does not have any detrimental effects on the environment, and has the potential to decrease the total cost of stationary.

5. Kitchen

Sources of paper use in the kitchen stem from the following areas:

- Paper cups
- Paper plates
- Paper towels

The office kitchen is currently set up to have the necessary tools and appliances to cater events including cabinetry and a dishwasher. Office administration has confirmed there is currently one empty base cabinet and two empty wall cabinets.

Empty cabinets have the potential to be converted to storing plastic serveware or personal cups rather than providing Realtors with paper products. Not only does offering serveware reduce the cost of supply for the office in the long term, garbage and waste is also decreased daily.

Certifications of Paper Products

Although completely eliminating the amount of paper printed in the office is not a realistic approach, ethical paper brands are available.   The following are examples of certifications for the ethical production of paper products:

- Forest Stewardship Council

- Programme for the Endorsement of Forest Certification

- Rainforest Alliance Certified

- Green Tick

Forest Stewardship Council explains that the purpose of these organizations is to certify that the product or ingredient was produced by farmers, foresters and other companies in a sustainable way and promotes the responsible management of our global forests. Using certified paper products not only encourages responsible manufacturing of paper products, but also encourages ethical business practices in the pulp and paper industry globally.

C. Analysis of Document Storage Solutions

This section will analyze the costs of printing and storage fees versus online alternatives.

Document Management and Storing Solutions

Following is a description of three document management solutions and three document storage solutions:

- **Physical Printing and Filing Boxes**: Consists of physically storing documentation.
- **DotLoop**: This alternative is a Real Estate transaction management software that connects Realtors and Buyers virtually for instant e-signatures. DotLoop explains that documents are stored on the interface once the transaction closes, therefore offering a bonus storage solution.

- **Command**: Created by Keller Williams (KW), this interface is offered to all agents for free. Command provides database management, document management, task management and marketing solutions. KW mentions that Command is still in development for Canadian brokerages, though the software is available with certain limitations. There is no discussion to add a cost to the software once it has been fully released.

- **Google Drive**: Christopher Alghini (Google Cloud consultant) explains this option as a cloud-based storage solution that allows a user to save files online and access them anywhere from any smartphone, tablet, or computer, and can only support Mac and Window users.

- **Dropbox**: Is another cloud-based solution similar to Google Drive, however it is based on a desktop application and supports earlier versions of Mac OS, Windows as well as Linux explains Alghini.

Costs of Printing and Storing Documentation

For the scope of this report, only Realtor printing consumption is used to analyze the volume of paper vs. costs. Most (68%) of Realtors said transaction documents were printed and stored in filing boxes. Office management states the cost of printing a black and white document is $0.10 per page. Using the average volume of pages printed explained earlier, the average Realtor spends approximately $43.00 per month on printing fees or $516 annually, assuming black and white. This fee can triple monthly if printing in color.
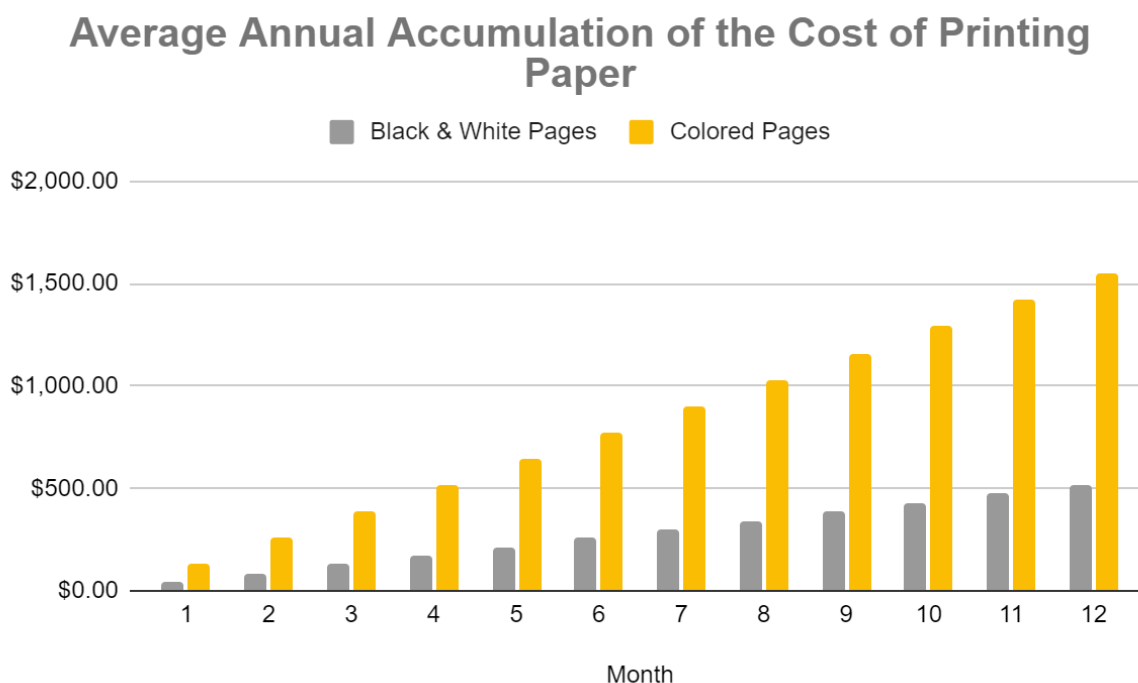
Average Annual Accumulation of the Cost of Printing Paper

Figure 3 Average Annual Cost of Printing

In addition to printing fees, filing boxes and folders can add an additional $100.00 per year for each Realtor and require 1 cubic foot per box.

Cost Comparison of using Virtual Platforms

The four virtual solutions are compared to printing fees below:

- **Dotloop**: Costs an agent $29.00 per month. Assuming black and white printing, this alternative is $14.00 less per month saving $168.00 per year.

- **Command**: Is offered by Head Quarters to all Keller Williams agents for free. This option has the potential to save Realtors 100% of their annual printing costs.

- **Google Drive**:
    - Option 1: $30.00 per year for one hundred gigabytes of space saving Realtors an average of over $400.00 annually. If combined with Dotloop, a Realtor is still

saving over $130.00 per year.

- ○ Option 2: $140.00 for a terabyte, saving Realtors an average of over $350.00 annually. If combined with DotLoop this option is close to the current cost of printing fees.

- **Dropbox**:
  - ○ Option 1: $150.00 per year for two thousand gigabytes of space, saving Realtors an average of over $350.00 annually. If combined with DotLoop this option is close to the current cost of printing fees.
  - ○ Option 2: $280.00 per year for three terabytes, saving Realtors an average of over $350.00 annually. If combined with DotLoop this option is $100.00 more than the current cost of printing fees.

The benefits of printing documentation for storage purposes is access to the documents in the event of a technological crash, or cancellation of a membership. However, physically storing documents requires a substantial amount of space and is generally more expensive than the virtual alternatives. Each of the virtual solutions offer affordable cloud based storage which offers increased security and accessibility. The cost analysis confirms the feasibility of both DotLoop and Command in terms of affordability.

D. Attitudes Towards Converting Daily Business Practices to Virtual Platforms

The following section will identify four areas of concern identified from the surveyors:

Training

The most frequent critique for converting businesses to virtual software was the concern for retraining. When asked if re-training would deter a Realtor from considering converting, 17% responded with a definite aversion if retraining was required.

Although new software is intimidating and may be initially frustrating, long term productivity and efficiency is increased. Both DotLoop and Command have extremely user-friendly interfaces and require very little training on functions.

Security

The second most popular concern for using virtual software was the issue of security and privacy for keeping confidential documentation online. The issue of public accessibility and potential hacking identified a strong aversion to the concept.

Both DotLoop and Command require several components to passwords when signing up for an account. Control over documents accessibility is very high and the probability of hacking into one of these accounts is extremely unlikely. The accessibility to Google Drive or Dropbox offers two-step verification options which only allow approved devices to have access to content. That said, control over the security and accessibility of documents stored in filing boxes is very low.

Binding and Enforceability of E-Signatures on Legal Contracts

A third critique was the enforceability of e-signatures on listing or purchase contracts. The Electronic Signatures in Global and National Commerce Act is a federal law that validates electronic signatures. Real Estate transactions are specifically covered under this act (DotLoop). It is also common practice to include a clause regarding e-signatures in the terms and conditions of purchase contracts.

Technological Malfunction

The final critique referred to losing or accessing information in the event of a technological crash or a power outage. A strong concern for losing information was detected in 23% of respondents.

Although power outages do happen and are not controllable, DotLoop and Command are available through applications on phone and tablets. In the event of a power outage, assuming reception is still available, documents are still accessible. The issue concerning losing information is very unlikely, as all options offer cloud-storage with full-time IT departments.

Probability of Conversion

When asked about the probability of converting business practices from printing to using virtual solutions, 53% of surveyors responded a high likelihood of conversion if the interface is user-friendly and the property training is offered for little cost.

E. Motivation Regarding Reducing the Environmental Footprint

When asked about the concern regarding the environmental impact of printing documents, 60% of surveyors responded with a high concern for the environment, 37% responded with a lower concern and 3% responded with no concern.
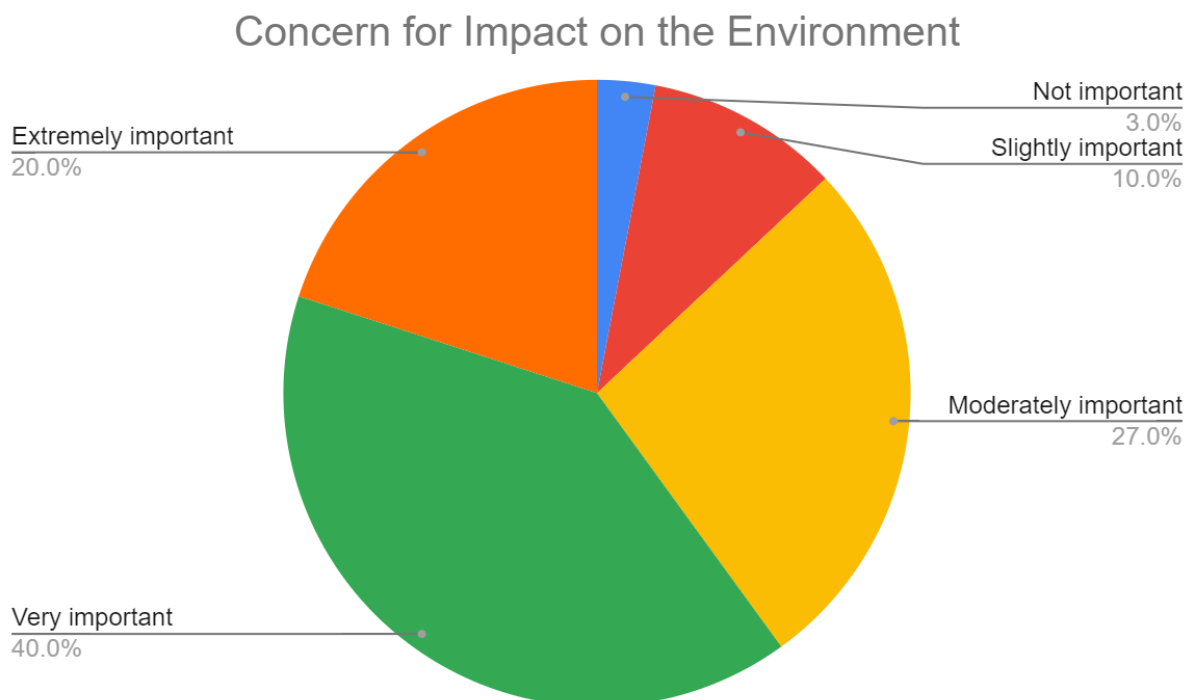
Figure 4 Concern for Impacting the Environment

Although 37% of Realtors have a lower concern for impacting the environment with business practices, there is a clear concern for the environment on the majority of surveyors. Motivation for converting business practices to virtual solutions are enforced by this impact, as well as increased administration, space required and the expenses associated with printing documents.

CONCLUSION

Summary and Overall Interpretation of Findings

Deforestation is a serious global issue and is largely caused by agricultural purposes. Forest plantations for the pulp and paper industries are a portion of these actors. An increase of paper demand has caused the industry to grow exponentially, as a result the cover of forestry on our

planet is decreasing daily and severely contributing to environmental concerns including increasing greenhouse gases, climate change and endangered species.

There are five sources of paper consumption at the Keller Williams Realty VanCentral brokerage. Of these five sources, only three have the potential to have a reduced impact on the environment. These sources include paper consumption from Realtors, client appreciation and the office kitchen.

The office has already implemented the first steps of converting the office conveyancing systems to entirely virtual platforms for data management. Two platforms are being used to process transactions; DotLoop and Command, which are offered at extremely affordable costs to Realtors.   Currently, Realtors without memberships have the option of emailing their documents to the market center administrators which are then uploaded to one of the two platforms for processing. Results from respondents identified 67% of Realtors do not currently use a virtual platform to manage their documentation.

The majority of critiques and concerns regarding virtual platforms include misinformed conclusions on technological software and have the potential to be surpassed. The probability of conversion is over 50% if easy and affordable training was encouraged, and the motivation to protect the environment was high in 60% of respondents.

Recommendations

In attempt to decrease the environmental footprint regarding the consumption of paper products, please consider the five areas of improvement:

- Mandating the memberships of either DotLoop or Command for submitting transaction documentation.

- ● Offering free or low cost personal training sessions for both virtual platforms.

- ● Using certified paper products from ethical brands for printing.

- ● Using recycled paper for stationary.

- ● Offering reusable serveware in the kitchen.

Although completely eliminating our impact on the environment is unrealistic, these options are a step towards reducing our involvement in the deforestation of our planet.

APPENDIX A: SURVEY QUESTIONS

Introduction

I am an undergraduate Business student at the University of British Columbia, working on a technical writing project. The purpose of this survey is to collect primary data for a research that aims to recommend a solution to reducing the environmental footprint of the Keller Williams Realty VanCentral office. The research report will be addressed to the Operating Principle and Managing Broker. The data collected from this survey is entirely anonymous and will be analyzed to offer a solution to reducing the volume of printed documentation. There are 10 questions in this survey and should take about 3 minutes of your time. Your responses are voluntary and anonymous. Thank you, I appreciate your generous participation in my survey.

Question 1

What is your role in Real Estate?

◯ Real Estate Agent

○ Licensed Assistant

○ Unlicensed Assistant

Question 2

Do you use online data management systems?

○ Yes

○ No

○ I do not know about online data management systems

Question 3

Would you be willing to introduce E-signing contract documents to your clients?

○ Yes

○ No

○ Depends on the client

○ I already use E-Signing

Question 4

In your business process, are contractual documents printed for each transaction?

○ Yes

○ No

○ Depends on the situation

Question 5

The Real Estate Board of Greater Vancouver requires documentation for a transaction to be stored and accessible for a minimum of 7 years. How are these documents currently stored?

○ Online Cloud System

○ Online Data Management System

○ Storage Boxes

○ Other

Question 6

How important is the environmental impact of physical printing/data storage to you?

○ Not at all important

○ Slightly important

○ Moderately important

○ Very important

○ Extremely important

Question 7

Would you be more likely to shy away from online solutions if it meant re-training?

○ Yes

○ No

○ Not applicable - I already use online systems

Question 8

If re-training is required, how likely are you to invest in it through both time and money?

○ Extremely unlikely

○ Moderately unlikely

○ Neither likely nor unlikely

○ Moderatly likely

○ Extremely likely

○ Not applicable - I already use online systems

Question 9

What are your other concerns on using virtual data management systems for your business?

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Question 10

How likely are you to transition to online solutions in the future?

○ Definitely not
○ Probably not
○ Might or might not
○ Probably yes
○ Definitely yes
○ Not applicable - I already use online systems

Powered by Qualtrics

APPENDIX B: INTERVIEW QUESTIONS

1. What is your position at the office?

2. What is your opinion on the volume of paper printed daily at the office?

3. Do you believe there is room for reducing the amount of paperwork printed each day or do you believe the current system is optimal?

4. What is the cost of using the office printer?

5. In your opinion, could the office benefit from transitioning to online data management systems?

6. In your opinion, how much printed paper is effectively used versus archived or wasted?

7. With your experience with Realtors, do you believe the office can sustainably change to primarily online systems to manage documentation?

8. What paper products are offered in the kitchen?

9. Would the office benefit from offering reusable serveware?

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