To What Extent Does Academic Writing About Research Methods and Design Provide a Recipe to Follow When Conducting Your Human Geography Research?

Between January and March 2022, I completed an extended group research project entitled: *"Petrol Headed: A Critical Examination of the Uneven Consumption of Electric Vehicles in Both Practice and Media Across Select European Nations"*. As per the research brief, this report focused on an aspect of geographical consumption - sustainable consumption - by examining the uneven patterns of electric vehicle *[henceforth: EV(s)]* uptake across Europe. Using pre-constructed *[found]* data, we conducted quantitative analysis on government texts and statistics to demonstrate the uneven nature of EV uptake in Europe, in addition to addressing the impact EV infrastructure and purchase incentives have on their subsequent ownership. This was supplemented through a further media analysis of Top Gear to generate social understandings. My research paper concluded that no single factor can be determined as the principal cause behind uneven EV uptake, in addition to highlighting the importance of the impact media sources have on EV ownership.

Throughout all stages of my research, the importance of academic writing about research methods and design was paramount in ensuring consistent links between theory and practice (Kitchin & Tate, 2000), and satisfying the formal criteria required for academic writing (Flowerdew & Martin, 2005). However, Graham (2005) states that "there can be no recipe for bridging the gap between theory and research" (P. 31, Ch. 2), thus demonstrating that the epistemological philosophies behind theoretical research problems cannot be perfectly translated into tangible research via the use of one single 'recipe'. Instead, research projects require an understanding of the underlying theory before decisive application to suit a given situation. This essay will explore the extent to which academic writing about research methods and design *can* be classified as a recipe, through the exploration of significant events in my previous research project. For clarity, a recipe will be defined as "a formula or procedure for doing or attaining something" (Merriam-Webster, 2022). I will begin with an exploration of our initial idea development, before exploring the input of academic writing on our formation of a research question. Additionally, the input of academic writing in our data collection process will also be discussed. Holistically, this essay will echo Graham's argument,

posing that academic writing cannot provide a complete recipe to follow when conducting research; instead, an individual recipe or plan must be created from a mixture of sources and empirical decision making, which aids research design in practice and theory.

The initial planning of our research project was focused on choosing a relevant research topic which satisfied the module guidelines as well as being methodologically viable for later research design. As per the brief, our project had to relate to some form of consumption, meaning the breadth of topics available to us was artificially limited. Therefore, despite not being classified as an academic writing, the brief did act like the first stage in a recipe, as it prescribed potential topics which could be researched. To satisfy this, I established a foundational level of knowledge in the field, noting common themes throughout the background literature: namely sustainable consumption and overconsumption (Mansvelt, 2013; Hubbard, 2009). Specifically, Hubbard's work acted as a prominent piece of literature, as it states that "contemporary consumerism sees solutions for every problem" (P. 109), linking both economic and cultural definitions of consumption together. We consequently decided to create ideas around this notion *[appendix 2.1]*. We initially discussed three topics: EVs, food, and fitness. However, we were unable to select a single topic as our focus of research. When referring to academic writing, numerous sources state that choosing a topic of personal interest is vital in ensuring a detailed study (Kitchin & Tate, 2000; Flowerdew & Martin, 2005; Cook, 2021). Topics chosen for other reasons, such as current notoriety or reasons of safety, usually lead to research projects which are "poorly executed and uninteresting" (Kitchin & Tate, 2000, P. 29). Consequently, we decided to select the topic of EVs as all four members of our group had a shared interest in EVs, meaning we had personal involvement in the area of focus. In this case, academic writings provided significant guidance in the selection of our research topic and somewhat acted as a recipe which I followed, leading to the selection of EVs. However, the level of interest in EVs was uneven within the group, meaning they had compromised their preferred topic area to retain strong research group relations (Cain, 2013; Burdett, 2003). Thus, for some members, the direction informed by academic writings was less prescriptive and was not followed in the same recipe-like way. Therefore, academic writings holistically aided our practical decision making, but were not prescriptive of one direct path given the need for discussions and votes to ensure group homogeneity, informed by a combination of literature on group working practices, research

design theory and EV literature. Nevertheless, once our research topic had been selected, I looked to design specific research questions to further narrow the focus of our research.

The second stage of our research project involved the development of focused and answerable research questions on specific aspects of EV ownership. At this point, our research aim represented a large and vague field, which required clear concentration to allow for viable research. Barnett (2022)[3] references the need for thoroughly designed research questions which explain geographical phenomena through practical means. This involves a change of question syntax through movement from '*why?*' questions to '*how?*' questions, thus allowing for practical research design to be centred around each aim. Furthermore, other academic sources referenced the need for relevant questions (Kitchin & Tate, 2000; Peters, 2017; Hay, 2016), marked by clear and simple wording and holistic application to the overall research aim. The involvement of academic writing in the development of our research question was thoroughly important in ensuring that the theory behind our research design was later applicable to the subsequent process of data collection and analysis. Notably, Barnett's input provided us with a recipe for research questions which were answerable in practice through changes in wording *[appendix 1.1]*, thus indicating that the development of our research question followed a recipe as set out by academic writing. However, our question was then further developed through engagement with EV literature and course content to include the use of alternative data sources, to allow our paper to enter into a new area of research; as informed by Kitchin & Tate (2000) *[appendix 2.2]*. This culminated with our overall research question of *'What are the causes and motivations behind the uneven uptake of EV ownership across Europe in recent years?',* which was further broken down into three distinct aims [4]. In this instance, although academic literature did provide us with a recipe for the basic formulation of our question, the subsequent development of including alternate data sources and targeted wording of the question was done with reference to academic literature; not directly following it. Therefore, academic literature largely did not provide a clear recipe to follow in the formation of research questions, as significant decisions were made in light of theoretical understandings the literature gave us, rather than the sustained following of a prescribed path. Additionally, no single piece of literature provided us with a clear recipe, instead we had to formulate our own through the amalgamation of different sources which

all individually provided some input. Nonetheless, once our research question had been clearly established, we began the process of data collection to later answer our overall aim.

As informed by our research question design, the data collection process was individually tailored to each aim to ensure our report remained both accurate and ethical; with academic writing providing insight across all methods. Both research aim i and ii [4] involved the use of secondary, found data with subsequent analysis *[appendix 2.4]* to derive new conclusions. The scale of our proposed research project determined the use of secondary data was established *a priori,* as informed by Tyrrell (2016) and St Martin & Pavlovskava (2010). In this case, academic literature did promote and justify a certain path for data collection. However, it was our research questions and the time, scale and budget constraints of our proposal which meant we were unable to collect our own primary data. Regardless, our data was collated from different official government sources [5] to produce our own significant data sets. The input of academic writing then informed our data collection process across two fronts. First, Cloke (2004) notes the perceived authority *'official'* statistics bare, given that they have been produced by governments or public authorities, despite not necessarily being the most accurate. To ensure we had the most accurate data, we cross referenced our data sets with privately funded sources. Once completed, we found little or no difference between the official statistics and privately funded sources, with the former providing more complete and easily accessible data sets. Moreover, with reference to ethics, academic writing further promoted the use of official data sources as they provided a *de facto* way of ensuring our research was ethical (Cloke, 2004; Tyrrell, 2016; Tripathy, 2013). This Is because the data is open source and freely available on the internet for us to access, meaning that "further use and analysis is implied" (Tripathy, 2013, P. 1478) *[appendix 1.4]*. Consequently, academic literature thoroughly aided the choices we made in our data collection process for research aims i and ii by providing academic and ethical justifications. However, the input of academic writing simply informed our decisions in practice through such understandings, and therefore did not act in a complete recipe like way, given the availability of other options and specific requirements of our project. However, with reference to research aim iii, the process was far less prescriptive of any given path.

The data collection process for research aim iii involved the combination of both visual methodologies and textual analysis centred around *Top Gear [appendix 2.2]*. This approach involved the use of mixed methodologies: as the subtilties/scripts were extracted for textual analysis in addition to notating visual and temporal elements of the show. This exploration of textual and visual analysis together was not prominently featured in academic literature, therefore meaning we had to create our own understandings from separate pieces of literature. Aitken & Craine (2005) promote the importance visual methodologies, stating that works of film/television have the power to "shape contemporary culture" (P. 257), and should be examined in context to gain a full understanding. This was combined with Crang's (2005) work on textual analysis, which supported focused and detailed textual analysis around pre-planned topics to suit the research aim, as textual analysis can often produce new questions or topics which are often less relevant. Therefore, through a combination of both Aitken & Crain's and Crang's works, theoretical justification was given for the inclusion of Top Gear in theory, but to no extent did they behave like a recipe. Instead, points of interest were extracted from the individual works to formulate a targeted understanding, thus referencing the holistic argument of each research project requiring its own, non-transferable recipe.

Holistically, the sustained inclusion of academic texts in our research design process was vital in providing underlying theoretical justification for our later analytical processes. This was clearly demonstrated across three specific moments within our research project: spanning idea theorisation, research question design and data collection. However, such writings cannot be classified as recipe-like, as they did not prescribe a single path which had to be followed. Instead, specific sections of writings aided in the selection of our research topic, and gave significant theoretical advice in both the development of our research question and data collection processes. Their continued involvement was necessary to ensure our ideas and actions in practice were justified in theory across ethical and methodological concerns, however the constraints of the research guidelines and empirical complications meant that no single academic writing could provide a complete recipe for our project. Therefore, our own specific recipe was designed, via the amalgamation of relevant sections from different pieces of literature, thus creating a non-transferable formula for our research project in context.

Appendix:

Group Project Review:

1.1) Describe the Process of Forming the Focus for Your Project and Whether and How the Focus Has Changed Through the Project? You Should Comment on Your Research Question and How It Has Evolved.

The initial focus for our research project was formulated in the first week, drawing on material covered in other modules which covered the use of electric vehicles. Not only did this allow us to put forward a research project which we had some prior experience, knowledge and materials in; but also was an area of study which we all thoroughly enjoyed as a group. With relation to the brief and learning objectives set out by the module, academic discussions of sustainable consumption often involve the promotion of electric vehicles, as the produce far fewer global warming potentials when compared to regular combustion engines. A combination of all of these factors allowed us to begin exploring the topic. This initially provided us with the research question of: *"What are the causes behind the uneven uptake of Electric Vehicle ownership across Europe in recent years?"*

As the module continued, topics discussed in the week 3 lecture provided understandings of alternate data sources. We felt that such a focus on alternate data sources was important, and we should mould both our research and subsequent research question to allow for the input of alternate data sources. In conversation with module convenor Dr Matt Finn, we spoke about the input that popular media sources has on the uptake of electric vehicles: marked by Top Gear consistently slandering the topic. Therefore, we adapted our research question to include a focus on media sources, thus providing us with *"What are the causes and motivations behind the uneven uptake of Electric Vehicle ownership across Europe in recent years?"*.

1.2) Describe the Different and Changing Roles That Reading Has Played During Your Project.
Initially, I felt that reading the example papers from last year was a strong area to start in, noting areas which I believed were strong and some which were weak. A common theme found through this process was the breaking down of a wider holistic research question into smaller research aims, to allow for a report with greater structure and depth.

From this initial understanding of the brief, I moved onto focusing on principals of teamwork. This allowed for our group to work in a more cohesive way, given base understandings of respect and leadership. This was supplemented by readings on the use of both quantitative data and textual analysis, giving a foundational understanding of how to best use the sources we were discovering.

Finally, as our research project involved the use of textual analysis, there was a lot of reading of data sources in The Guardian in order to best identify which suited our research project best.

1.3) Describe the Process of Sourcing Your Data (In Terms of Searching, Selecting, Generating, Preparing Your Data as Appropriate to Your Project)
The method of sourcing of our data was tailored to each one of our specific research aims. For research aims i and ii, we sourced solely quantitative data from relevant Government websites. Not only was the data presented clearly and readily available, but this also

allowed us to overcome any ethical issues with generating our own primary data. Select categories of data were chosen, covering economic and infrastructural issues. Much of our data collection for i & ii was the collation of pre-existing numerical data sets, before presenting new comparisons in tailored graphs, among other data presentation techniques.

The sourcing of the quantative data began with an agreement over which sources we would focus on, namely Top Gear and The Guardian in the UK. The relevant articles and episodes were discussed, before notes we're taken over the content of each. For the TV episodes of Top Gear, transcriptions were created from both the subtilties and online archives.

1.4) <u>Describe the Steps You Have Taken to Ensure That the Research Was Ethical and Any Challenges You Found in Doing So.</u>
Given the data used in research aims i and ii of our project being directly Government data, sourced directly from the relevant websites, there were minimal ethical concerns which we had to address; yet we still were aware of promoting ethical research at all stages in our project.

With respect to concerns over research aim iii, we ensured that all data used was in the public domain, and was both analysed and collected without bias.

1.5) <u>Describe the Process of Initial Analysis of your Data.</u>
Once our data was collated for research aims i & ii, some further reading was undertaken to understand the relevant analysis we could apply. This involved the learning of data presentation and analysis techniques via Excel. As we had no prior experience in any other software (for example: SPSS), we decided that due to its readily available nature and some powerful processing techniques, it was a relevant tool. One the data was presented, each graph and table was analysed individually, drawing relevant conclusions.

Research aim iii provided an area of textual analysis, where themes and understandings were drawn out from each article and TV episode respectively.

1.6) <u>Describe Your Working Practices, and the Roles Played, by Members of the Team</u>
Given we were only a group of four boys, there was no need for a direct leader to co-ordinate work flow. Initially I drew out research project flow diagram [also attached in appendix], which the team mostly adhered to. This allowed for us to segregate the work in an even and clear manner, as each individual task was clearly labelled with its relevance to other aspects of the project.

We decided to work through the project in a chronological manner, with all members playing a part in each task at a time. This worked well for our group, but did require constant clarity and communication. We held regular meetings, and often spoke on WhatsApp in order to update each other of our progress.

1.7) <u>Describe Any Barriers You Faced in Doing Your Research and How You Sought to Overcome Them.</u>
We holistically had very few barriers to work: most of the group members abided by self-imposed deadlines and held themselves accountable if they failed to do so. There was an

ongoing balance between module work and the competition of other essays and relevant work, which the group largely adhered to. It was overall a pleasant and fun working experience.

1.8) <u>Describe Anything You Would Have Done Differently With the Knowledge You Have at This Point.</u>
As our group communicated well; provided clear information; and adhered to the research project flow diagram, there is not much which we would have done differently with our current knowledge. Some areas of our data, however, have become unreferenced. This will be rectified in our report by retracing our steps and finding the relevant online source to ensure our research is fully referenced, yet this remains an arduous process. I believe now, after becoming more skilled with the use of data sets, I would ensure that previously all references are clear and orderly, to ensure the writing of the report becomes much smoother.

Research Notes:
2.1) Tried to come up with definition for consumption: initially economic geography definition, before moving on and broadening definition to include social, political and environmental spheres.
Talked about readings for week 1, noted identity as a key concept for consumer commodity definitions.
'Contemporary consumerism sees economic solutions for every human problem'. Ran with this idea, led to:
Can the economic solutions nullify the problems of overconsumption?
Topics then briefly discussed: Electric cars? Food? Fitness?

2.2) Inclusion of other data sets culture based top gear idea in the UK? Helps to understand the drivers as not only economic or state led movement. If only UK then see as a positive, as failed to view cultures in other countries, ensure cultural representation.

2.3) Don't assume causal links between factors. Caution with way we drill down. NOT statistical analysis, just quantative data… we're just counting and ranking.

Essay Specific Appendix:
3)   Reference taken at time access given to video
4)   Our overall research question of '*What are the causes and motivations behind the uneven uptake of EV ownership across Europe in recent years?'* became the general question for our three further research aims:
   i.   *Establish a holistic contextual understanding of the uneven nature of EV ownership between different nation states within Europe.*
   ii. *Produce a statistical comparison of economic, political/infrastructural factors which account for differing levels of electric car ownership across three selected European nations[2] [United Kingdom, Norway, Slovakia].*
   iii. *Examine the portrayal of EVs in UK media: Top Gear, as to formulate social understandings behind EV ownership.*
5)   Official sources used: European Environment Agency (EEA), European Alternative Fuels Observatory (EAFO) & European Automobile Manufacturers Association (EAMA).

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