The Work of Mad Men That Makes the Methods of Math Men Work: Practically Occasioned Segment Design

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ABSTRACT

This study concerns the practical methods used to design segmentation models for digital advertising. I illuminate some of the collaborative activities workers rely on to create these web analytics based groupings. This work remains overlooked as the popularity of automation and statistical methods for segmenting customers continues to grow. I explain some of the ways the advertising customer is present as a background expectancy while workers make segment composition decisions. This approach is meant to complement established evaluative, technical, and statistical methods used to create segments and personas in design and marketing. This may inspire similar approaches to designing for specific groups of people while working with large data sets. Incorporating these customer-orienting practices in design and advertising processes could lead to novel approaches for both segment targeting and customer relationship management (CRM) software.

Author Keywords

Ethnomethodology; Segmentation; Personas; Ethnography; Design.

ACM Classification Keywords

H.5.3. [Information interfaces and presentation] (e.g., HCI): Group and Organization Interfaces - *Computer supported cooperative work*

INTRODUCTION

“Until now the province of nerds, the automated buying and selling of online ads is hitting the advertising industry mainstream”[10]...“Forget Mad Men, advertising now belongs to the Math Men” [1]. These excerpts reflect new sentiment in the advertising industry. This includes stakeholder desire for an efficient path from the conception of an advertising idea to reaching a target market with a campaign. This desire is increasingly satisfied by mathematics and technology. Contemporary advertising has

welcomed technocrats from mathematics and engineering with open arms. Many in the industry have substituted their faith in human sensory ability (interpretation and intuition) for algorithms, automation and programmatic execution.

Digital advertisements are created, launched to segments of the population, and optimized for performance. This is achieved in part through selective computer algorithms that operate with speed and scale. This phenomenon, and its impact on advertising organizations was recently described by advertising executive Jay Sears in an Adweek Magazine Interview: “It used to be that-and still, in many parts of the business, it is-that inventory was sold in gigantic blocks, and when you broke the block down, you’d find that part of it really worked for the situation you were in and part of it didn’t. The magic of programmatic is that it’s about de-averaging and it’s about data...The automation of the buying and selling of advertising is inevitable. You only need to look at history. Look at the stock market and the evolution of trading-look where it started. It started with over-the-counter stocks, and now every blue-chip name is automated” [25]. Specialists managing these efforts are increasingly prevalent in key areas of advertising: “Well, when you look at a holding company, you’re talking about tens upon tens and maybe hundreds of thousands of people around the world, and if you listen to how some of the trading desk people talk, they’re organizing businesses around this march to automation” [25].

Advertising technology has enabled granular capabilities for crafting segments that are addressable and revisable. It has also provided opportunities for real-time performance feedback. These capabilities were traditionally the privilege of specialized professions such as actuaries and demographers. Professionally, these developments may be as significant as ubiquitous computing was for the workplace, when it became the catalyst for changing how we work with one another: “moving out of the control room” [11]. Here, ubiquitous computing and connectivity are combined and result in a unique form of data science applicability for everyday work.

I argue this rise of advertising technology, which in many ways flies in the face of more intuitive practices, is not a zero sum game. Despite clear changes since the days of mad men, advertising workers and the clients they serve are not simply whisked away in a technocratic ocean of automation, left to passively consume recommendations

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CHI 2015, April 18–23, 2015, Seoul, Republic of Korea.
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<http://dx.doi.org/10.1145/2702123.2702493>

and reports from the ad technology they invest in. The relationship between the corpus of advertising specialist workplace knowledge and their collaborative activities deserves close attention. I am interested in the local practices used to build up and deploy segments of users as a feature of a digital workplace while orienting to customer issues. I argue this must not be hidden by the gloss of automation and describe how the socio-cultural constitution of segments progresses through technical workplace talk. I recommend accounting for interpretive, customer orienting practices when designing segment targeting and CRM software.

RELATED WORK

The design literature [3,4,5,17], economics literature and marketing literature [2,16,19,23,24] has dealt extensively with finding, evaluating, and constructing optimal groups of people for business performance. Frequently the latter is accomplished tactically through advertising. Common descriptions of groupings include: audiences, personas, and market segments. Highly developed topics in the space include optimal attribute or base selection frameworks and techniques (pricing, psychological, demographic, lifestyle, likelihood to purchase, product usage and consumption), the objectivity and validity of a broad swath of segmentation techniques, and segment driven meta-narratives on consumption [7,26]. However, no one has examined the practical reasoning involved in creating and deploying segments based on digital analytics for the purposes of advertising, or as in CSCW “the work that make the methods work” [9]. Nor has anyone applied those methods to design better advertiser workplace technology and practices. Much of the previous literature treats segmenting the population as a technical problem, of selecting the optimal techniques and statistical methods for product, pricing and advertising success and the best way of placing users into categories. My approach sought people working together in their everyday advertising environment to construct and deploy segments as features of an advertising workplace, and learning from this process to better design technology and organizations to support the work.

THE STUDY

The study describes how an advertising provider’s workplace organizes itself to design, manage and advertise to digital segments. I looked at segments as a course of action and asked: what does someone really have to undertake to “do” segmentation successfully? I described some seen but unnoticed ways diverse teams discuss and validate segments together. This includes how they organize their knowledge and “talk” about segments in a particular way, while systematically orienting to the customer as a scenic feature. In other words, customers are referred to, and work concerns them, not for their own sake, rather their importance to the work in progress [12]. This lens enables teams with diverse skillsets and

perspectives to use segment talk as a method to achieve common ground. Revealing some of the ways this work is achieved cross-functionally provides useful design direction.

To understand how workers accomplish segmentation, you need to understand the local analytic practices they employ. In the midst of algorithms and automation I considered segmentation work “as a practically occasioned form of everyday activity” [9] rather than work driven by abstract, predetermined facts and processes passively consumed by the customers and publishers creating the segments.

In short, I described some of the practical methods that typically go unnoticed when technical segmentation work is undertaken, and the mundane availability of those methods to one another in the workplace. That is, the “off script” methods of doing this work. Specifically, I showed that what professionals collectively say about the composition of a segment, while drawing on a corpus of specialized workplace knowledge, in turn contextualizes how they discursively orient to those segments.

Theory

I employed an ethnomethodologically informed ethnography to describe these practices. This method is effective for appropriating local practices for systems design direction and product development, and has been influential in HCI and CSCW [18].

Ethnomethodology turns to *how* work takes place and workers achieve social activity in concert, rather than describing *why* the work takes place [8]. This approach complements previous literature where contributors practice segmentation themselves.

The practice of constructing segments for digital advertising is as much a design issue as a research issue. Following Dourish [6] and Randall, Harper and Rouncefield [18] I produced a description of the workplace that informs design “by identifying the problems and concerns which a system has to accommodate if it is to effectively support work activities” [18]. This approach paid particular attention to the challenge of how key players in the workplace collaboratively orient to a segmentation setting and one another to produce successful advertising programs. It did not draw off of a social theory; rather it helped describe the practical reasoning happening between the workplace members *in situ*. Thus, I produced a description of local segmentation work, and the resultant organizational and technical design direction driven by that action. Here, the work *is* the design and ethnomethodology provides a description of that work.

Aligning with Dourish [6] I do not assume that designers and engineers work in a domain as deterministic, autonomous bodies. This fluid advertising setting is an example of how design need not be a separate entity. Instead, I subscribe to the notion that segment designs are “local adaptations and appropriations in particular social

and cultural contexts”[6]. Thus, the direction for segment design is an outcome of the advertising setting under examination, not a constitutive nexus of advertising technology and ethnographic studies. I presume that this ethnomethodologically informed ethnography of doing segment work allows us to adapt to an organizational context and work practices that have been left unexamined.

Ethnomethodologically informed ethnography is well suited for complex work settings where the decision of who and what to study is confounded. This setting is complicated by workers’ widespread reliance on technology. This includes ubicomp, connectivity, and most importantly digital analytics applications enabling employees with diverse technical aptitudes to do data science work.

Previous workplace studies literature has focused on adjacent themes with a similar methodological approach. This work includes: Sharrock and Anderson’s [22] description of the taken for granted, systematic ways users are discussed, and used as a resource to create “design worlds”, Martin, O’Neill, and Randall’s [15] description of the artful accomplishment of creativity in design and Greiffenhagen, Mair, and Sharrock’s [9] “methodography” of the working practices of statistical modeling within a group of social scientists.

The unique setting I described draws on two elements of previous work:

First, examining social science work outside of the academic and institutional domain and the undocumented practices of developing statistical models to accomplish this work: similar to Greiffenhagen et al [9] I described a cross section of (pseudo) social scientists plying their trade with previously inaccessible types, amounts and ubiquity of analytics available as a part of their everyday working world (rather than the privileged domain of demographers, actuaries or social scientists and their institutions). These workers were not officially referred to as social scientists, possessed different skills, and had different responsibilities.

Second, describing technical design work (segmentation) undertaken in light of both user and customer concerns: Martin et al [15] show how creative designers orient to the customer to accomplish their work and Sharrock and Anderson [22] describe how designers invoke the user as a scenic feature. I demonstrated how technical design work reflexively occurs between both a subject and party to design.

Method

The ethnographic observation for this study occurred over 15 hours of internal Google meetings at a regional office. The study involved 49 participants over the course of 3 months. The setting included a mix of engineers, client facing sales staff, technical analysts and marketing personnel.

Typical meeting times ranged from 30 minutes to 1 hour. The topics of the meetings were either preparations for client meetings, or brainstorming sessions for developing advertising programs. Conversations were transcribed. Interviews were held for clarification purposes. Next, I conducted an ethnomethodological analysis.

Setting

I studied an organization within Google responsible for packaging and selling Internet advertising and related consulting services. The work I observed involved employees using various algorithms and related technology to deliver advertising to segments of users according to a diverse set of attributes. The work involved two functions: 1. Analysis, construction and optimization of segments and targeting and 2. Advertising client management.

In the first category, technical workers were located organizationally between client work and engineering work. Client management personnel called upon them when deeper technical product expertise was required for an advertiser project. Periodically, these analysts had direct client contact, however they most frequently worked with Product Management and Client Management teams internally. They advised on selecting and refining attributes to deliver advertising to particular groups of people and in highly technical cases would help the client management team implement solutions. Much of this work involved “translating” advertiser requirements into technical capabilities, analytical models and associated recommendations. The teams had several technologies at their disposal to reach groups of consumers with video, banner, application and search advertisements. For example, if an advertiser asked to display their brand to loyalists who use their mobile device to purchase televisions, a technical analyst could take those requirements and construct a plan to reach those users online by configuring the tools at their disposal. The analyst would select from a myriad of technical targeting options (e.g. sports lovers), advertising inventory options and format options (video advertisements in the mobile YouTube app). These were features enabled en masse by engineers; however, they require a significant amount of technical working knowledge to combine and execute. Thus, it was not uncommon for analysts hold engineering or advanced mathematics degrees. In many cases segmentation recommendations occurred prior to an advertiser request, where the technical analyst proactively constructed a model for consideration. These analytical models were prepared using various Google services and databases related to the advertiser’s business:

1. *Google Adwords or Doubleclick for Advertisers:* online advertising services that allow advertisers to place and manage advertising according to a multitude of targeting options

2. *Analytical tools including Google Analytics*: a web analytics and reporting service for an advertiser's digital properties.
3. *Google Trends*: a tool for analyzing trending search queries.
4. *Other bespoke analytical and data visualization services*: developed and accessed internally to help teams demonstrate data driven opportunities for advertising partners.

When consumers visit and interact with digital properties, signals may be generated and interpreted. These allow Google to meaningfully categorize segments. Specific interactions include searching, browsing websites, watching videos and interacting with social networks. Segments range from a group of preset "Affinity Audiences" based on lifestyle interests, to customized remarketing audience segments based on specific actions taken on an advertiser's website. However, more generic audiences can be customized through filtering by criteria including (but not limited to) location, device type, campaign performance, age and gender, topic of content consumed and even time of day. All of this equips items 1 and 2 with a diverse set of digital segment capabilities and items 1-4 opportunities to analyze them.

In the second work function, advertising client management was responsible for overseeing the accounts of advertisers interested in working with Google on campaigns. Account management work concerned helping one or more advertisers grow their business, which was tied to growth of advertising revenue for Google. These workers facilitated the purchase, creation, launch and optimization of advertising and general reviews of the advertiser's business objectives in relation to that advertising. In all cases advertiser objectives included influencing a set of target segments to take a specific action. Thus, client business managers, in conjunction with analysts, strove to derive the highest value of analytics through theorizing what was represented within those analytics. In many cases Client business managers met weekly with their advertisers, including a quarterly review of advertising performance against client objectives. Given client management teams' high level of domain expertise and the general accessibility of the Google platform, in many cases the team acted as a virtually autonomous Google unit and spent most of their time working exclusively with external advertisers on their campaigns.

Beneplacitus Segment Construction Practices

Workers systematically oriented to advertisers while referring to, and acting upon segment tasks. Customers were not referred to for their own sake, rather their applicability to the work at hand. In this case, applicability was found in advertisers' receptivity to a segmentation recommendation. Decisions related to analytical segment recommendations were discursively determined separate

from the technical steps required to create the model. I call these *beneplacitus segmentation construction practices*. Part of these construction practices involved attending to client desires for segment authenticity. Workers turned to new analytical options in light of this desire. These segmentation construction methods are not validated through empirical analysis, or from polling clients. Objectivity for these model decisions is realized through these discursive methods. These practical methods are not passed down as predetermined self-contained mathematical and organizing principles, Google Analytics output, or Google Adwords training instructions.

Observing the locally dependent, practical reasoning between employees in this setting reveals the socio-historical composition of a segmentation model. This occurred in a realm that often suggests analyst constructed models and the decisions behind them are an objective, singular source of self-contained truth.

In the following example, two Google technical analysts and a Google client business manager discussed a recently constructed mobile device usage segmentation model based on the consumption of categories of site content. It was built to better address smartphone behaviors with advertising. In this case, the analyst was responsible for developing mobile segmentation models from analytical tools and working with the client management teams to prepare them for presentation to clients. Here analysts, who weren't assigned to specific clients, tested the model by discussing "real world" client scenarios with a client business manager. The analysts suspected this client business manager's accounts would benefit from the model. They did not question or debate the assumption that similar types of people will respond to similar types of advertising, however, "micro-theories" were up for debate and revision. They are resolved through *beneplacitus* segmentation construction practices.

"We can help with their mobile audiences. [So, I decided] to compare content consumed. So, someone who lands, what percentage viewed the main categories they have on their homepage? All of the major categories will be put into pipes. I'd click through to the major categories. And basically did segments. For example give me all the visits that went to product [category a or b] to research those products. And if you look at this, here is what you find for the weekends. [X] percent of every mobile visitor does a store locate, compared to desktop and very highly correlated with the weekend. I don't know if it's worth it, but it really stood out for me. They are stereotypical, and something we can use next year. But for someone that is very online focused it could be hard." (Analyst 1)

"There is a lot of interest. They say we understand mobile is important, but have no real understanding of what it does for us. I think your info is important to some" (Client Business Manager)

"Who are you talking to?" (Analyst 1)

“A lot of people. They have a good app that works quite well, once you have the application and you’re signed in, I believe that helps conversion, they do as well. It’s either a mobile site or their app for actual purchasing” (Client Business Manager)

“What is the main objection?” (Analyst 2)

“The multiplier.” (Client Business Manager)

“What’s the [Return on Advertising Spend]? [X]:1?” (Analyst 2)

“If this is what you’re tracking so be it, we’ll help you get the best result” (Client Business Manager)

“But if you look at last click, the audience model will not work though. Can we figure something else out?” (Analyst 2)

“Yes, but they want to see the results they can get, and next year we can craft strategies for mobile rather than m.commerce” (Client Business Manager)

“I’m hoping the insight stretches across all the weekend stuff. I’d like a content overview, and then tell them why I think that is. You have to make concessions somewhere, but here is what is happening for a reason.” (Analyst 1)

The group did not attempt to observe and extract knowledge from advertisers to construct and optimize the model. They accomplished this through discourse. The group was able to unproblematically determine if their segmentation model was a fit for a particular customer. This was a pragmatic, yet undocumented move in the process of segment configuration.

The customer was referred to for their significance in accommodating (or not) a segment solution and helped the team make decisions about the mobile segmentation model.

Specifically, the group acted on an opportunity presented using segmentation data and deliberated over model utility for the client, including the client’s understanding of that utility: *“They say we understand mobile is important, but have no real understanding of what it does for us”*. They also categorized the customer in question in relation to “customers in general”, and their relative receptivity to a type of technology: *“They are stereotypical”*, *“They say we understand mobile is important..I think your info is important to some”*, *“I’m hoping the insight stretches across all the weekend stuff. I’d like a content overview, and then tell them why I think that is. You have to make concessions somewhere, but here is what is happening for a reason”*. They referenced clients with varying degrees of generality when deciding whether to share a segment concept with a particular client or go back to the metaphorical drawing board and change the approach.

These deliberations do not change the statistical legitimacy of the discovery. Nor do the workers question the statistical principles or digital data collection capabilities by which

segments were built. They did not determine segment viability and importance, or decide to *“figure something else out”* through empirical observation or direct conversation with “stereotypical” advertisers, nor “some” advertisers.

The analyst began with an approximate idea for an effective mobile focused segment. The group’s decision focused talk concerned customer-oriented projections of model changes, future applicability of the model, and pronouncements of extensibility of the model. This talk demonstrated how a segmentation model is gradually and practically constituted through the course of the segment work. It was built up through mundane, common sense, non-empirically verifiable methods of reasoning with one another.

The members of this work group demonstrated some of the everyday collaborative methods that contributed to a segment in progress. This happened despite the perception that quantitative statistical models stand on their own, possessing intrinsic objective properties [9]. This group at Google had to see the customer sensibility in the model for to communicate that model, even if there is no discernable difference in statistical methods or efficacy.

Garfinkel [8] suggests that behavior and culture are inextricably intertwined, and you must first enter the setting of daily life before you can sufficiently articulate the social activity that comprises it. Considering Garfinkel’s [8] notion of the documentary method of interpretation, we should ask how workplace data and a segment observation are treated as evidence of a structured segment issue, and how they relate to everyday practical interpretive work to accomplish segment objectives. That is, the mutual elaboration of both that fact about a segment issue, and the organizational structure it comes to represent.

In the everyday work of identifying segment strategies for serving advertising campaigns, what practical, interpretive work is employed to treat the “data” in those exercises as representative of an underlying structure? For example, when analysts are looking for patterns, or client business managers and advertisers are discussing objectives. In this case, the interpretive work is organized around a significant scenic feature: customer palatability. How did technical workers interpretively see the customer-oriented system of practices of grouping people and targeting them to generate more mobile customers in the evidence and occurrences that present themselves in that work? Accounts about segment events and observations in this everyday setting were not simply social actions responding to a static reality, they shaped this reality in return.

Here we saw that the rationality of finding and communicating a mobile segmentation model data point resides in its intelligibility to others (advertisers) as showing mobile shopping habits. They did not inhabit some static structure of meaning that existed before it. This was part of the common sense, practical work required to make

the more formal statistical process of advertising using a segment work.

Further, practical everyday workplace talk and strategies between workers about the advertiser intelligibility of how to capture “mobile jeans buyers”, “mobile television purchasers” or “mobile education seekers” were constitutive of how to target those segments. This was regardless of their inclusion in the set of “best practices” or technical targeting parameters set up for these purposes to begin with. The interpretive process of moving from data to data as evidence of that underlying segment order is paramount for illuminating the practice of “doing segmentation”. In this case, the pattern of store locator clicks (occurring after exposure to internet advertising in a mobile buyer model) were seen to fit a particular agreed upon model for capturing those sales. This was in part through the group’s orientation to the customer as a scenic feature. These everyday practical segment matters were where workers’ concerns resided, not in creating stable organizational structures of interaction in the workplace or grand theory about how segments were created.

Another example of this interpretive work and “palatable” customer orientation was illustrative of Lynch’s [13] notion of artifacts in scientific data. Lynch shows how natural science (neuroscience) laboratory personnel treat by-products of obtaining data as methodological realities to be remedied, or risk interpretation “as evidentiary features of purportedly natural phenomena” [13]. In rare cases Lynch [13] described brain tissue samples confirmed as “fit” for conferences and refereed journals. Here workers sorted the samples into “lookers” and “users” describing some as looking technically superior and others as more practical for their procedure. As ethnomethodologists we topicalize the relationship between formulations and activities in what are other than “truth-conditional terms” [14]. This can apply to methods for constructing segments just as easily as an “assay” in neuroscience: “that is they do not treat formulations as exclusively true or false statements; instead they investigate how they act as pragmatic moves in temporal orders of actions” [14]. All of this laboratory work was not captured in the external sociological gloss of science (or in our case pronouncements effusing magic of advertising segment automation), or by the documented textbook procedure of this particular neuroscience activity.

In this case, while these segmentation workers orient to the customer, they treated the discussion of misunderstandings, alternate conflicting business models and ad effectiveness measures as “artifacts” to remedy. These are segmentation phenomena that adversely affected the team’s ability to produce and communicate a “palatable” model for the customer. That is, ad effectiveness logic in planning is analogous to scientific procedures for collecting data in the laboratory. Artifacts are imperfections resulting from this planning. The result can be changes in the model, or representation of the data set they have access to: *“But if you look at last click, the segmentation model will not work*

though. Can we figure something else out?”. These “artifacts” were not treated as negative occurrences, rather routine yet critical realities of successful segmentation work, and were demonstrative of the team’s orientation to the advertising customer and the palatability of the segment.

In sum, I show that segmentation models did not simply stand free or denote an objective reality in isolation. Instead, they were part of the routine, reflexive, give and take of segments that oriented to a significant contextual element of a set of advertisers. This example reveals the tacit but essential interpretive work required for internal and external working relationships with segments.

Next, we demonstrate how the specific base or lens by which these segments are considered are reflexively discussed, and programs are accomplished while orienting to the customer and vice versa.

Dividuous Scheme of Interpretation

In addition to orienting to advertising customer palatability, workers drew on practical reasoning to select bases for defining segments. These discursive methods cannot be defined formally, nor applied generally in advance of the segmentation work that occurred.

Workers decided how to define a segment, and the resources to draw upon to accomplish that definition through talk. They made choices between defining a segment by psychographics, demographics, web preferences, likelihood to purchase, their engagement with an advertiser’s website, device usage, etc. This was artfully accomplished despite a consideration set that included limitless human attributes to implement in the advertising software. Teams were challenged by a lack of clear specification for segments requested. This meant they needed to make a recommendation with imperfect information. Workers were able to collaboratively and unproblematically select a “good enough” segmentation lens to be evaluated as part of an advertising purchase decision by the client. The criteria for that decision included whether the ads would further the advertiser’s business interests, and consequently Google’s as well. This was accomplished despite the physical absence of the customer, and the impracticality of empirically testing each decision. Past academic contributions in the area of segment base selection were practitioner efforts to find the best possible set of categories that people might reasonably fit into. Instead, I embedded myself in a setting where the work is actually taking place, and described *how* categories were reasonably constructed and deployed as a feature of the advertising workplace. I found that workers employed the customer as a seen but unnoticed scheme of interpretation when selecting these bases. In turn they reflexively considered the customer in light of successive base selections and past segment engagements. These constructions did not rely solely on worker observations: direct contact with customers and users. I call this

collaborative process of drawing on interpretive customer and user resources to fit users into categories the *dividuum scheme of interpretation*.

Workers employed the customer as a non-empirically verifiable scheme of interpretation to decide upon the technical lens most appropriate for considering users. That is, when conceptualizing, constructing and deploying segments according to these bases, workers oriented to this advertiser expectancy. They referenced segment bases in light of this context with varying degrees of abstractness. They relied on typification to accomplish mutual intelligibility amongst colleagues and proceed with the segment work [21]. Typification is the notion that while two individuals cannot occupy the 'exact same' point of view at the same time, through talk they select common ground, through features, objects and know how, to achieve a common perspective that allows them to interact and collectively move on. Typifications afford a common language of sorts, and the coordination of activity across collaborative settings. Typifications allow collaborators to sustain shared understanding and accomplish order without exhaustive explication pertinent to the uniqueness of the situation (something that Garfinkel [8] would consider impossible).

Here, the impossibility of exhaustively determining the customer perspective, and empirically evaluating all permeations of segment base decisions according to those customer tastes (due to practical workplace distance) suggested to me that something else was at play in the setting. Instead, this was dealt with through the mundane availability of typificatory devices amongst the group. This orientation shaped workers' references and collective comprehension of segments, and contributed to the finished segment as a technical advertising device. Thus, these finished segments were not automated outputs that stand on their own; separate from their socio-cultural surroundings. This is a myth we should move past when designing software to support work in this setting.

Typificatory practices are essential for accomplishing segmentation work in a setting with a diverse division of labor. These practices were relied upon to facilitate communication across diverse biographies with differing technical aptitudes. Segment work proceeded unproblematically despite the impossibility of workers experiencing those segment decision points exactly as their colleagues and customers. Situational segment discourse and reasoning reflected the implicit presence of the customer, and was interpretive work that complemented the empirical, statistical categorization work used to create a mathematical model for the segment(s). Segment base decisions were validated reflexively through talk between the workers in this setting while orienting to the customer. Part of fitting the action of a segment to its context, involves Sacks, Schegloff and Jefferson's recipient design [20]: adjusting communication for the recipient in that setting. This talk cannot be determined by predefined, a

priori analysis, with segment data standing alone for passive consumption by the account teams and clients.

In the next scenario, a Google team constructed a segment model in preparation for a client presentation. An analyst created an initial model to illustrate the quantitative opportunity according to an advertiser's key performance indicators. The analyst used a customizable version of Google Trends called "Google Trends for Marketers" to categorize branded keyword searches into a number of relevant categories for the advertiser (e.g. customer service, innovation etc.), and used the output to examine aggregate consumer relationship between the brand and those categories to develop advertising strategies from them. The team intended to show the advertiser opportunities within segments that would enable the latter to sell product units and associated services. The analysis was shared with the client business manager as part of an iterative editing process. The client business manager integrated the segment models into a presentation that included broader client relationship items: past performance, partnership status and opportunities, and service level discussions.

"It's tough to see" (Client Business Manager)

"Good point mark em' out. Look at share of voice" (Analyst)

"Is that [x company division]?" (Client Business Manager)

"Yes basically they are staying stagnant. We can help them grow, What I'm going to do is kill 2011. I know we like to show back there" (Analyst)

"So there is nothing happening in this market is what you're saying" (Client Business Manager)

"Nobody is gaining or losing anything. Volume is the same. Positioning moves a little bit. How can we help you grow that bubble? So the story is when you're looking of for company x you care about product [x] and [y], is that a shocker? [Product y] includes [features x and y], these are the two highest categories of interest. We looked at innovation etc. why would we show things that aren't very important? Then we look at what people are looking to but[...]This is a conversation cloud. What are some of the things people are looking for? Understanding what they are looking for will help us understand what we need to do to build that bubble for them. For [product y] how can we grow it?" (Analyst)

"For a different example. I was doing it for [company x], they're obviously smaller. I took [product category x]. Maybe I did three because that's what mattered. You can see that [company y] really owned that time frame. See quarter over quarter. What will move the needle for you is product launches. Product launches work, they matter. You have a slide like that. Say [Company x, company y], share of voice. Increased the quarter that it launched. Then you get [3rd party sales data], that shows your incremental year over year for units sold. If you're able to show company y's

share and increase in [company x]. Show share of voice and sales” (Client Business Manager)

“Who has access to [3rd party data source]?” (Analyst)

“Somebody does.” (Client Business Manager)

“So for 2013 I have this. [3rd party data] shows quarter data? So for 2013 performance. This is showing their interest in the brand versus the category. Telling them to focus on people x% interested in brand and maybe x% of the way for people interested in the category. x% are choosing company y before feature x, I’m hoping the number will be more for current data. Even if it’s a lower number, the message stays the same.” (Analyst)

“Keep tying back to product launch.” (Client Business Manager)

“Tie them back to interest in the category? When shopping for a [new product x]? Best product in the category, best customer service etc.” (Analyst)

“My issue with this, is just because it’s trending high, why should I care about it? So this data before makes sense to me. So maybe only show three categories instead of four. What’s the user action? Maybe customer service I wouldn’t use. Because if I was in the room, I would probably question that. What does that mean? If you remove it, then you have a more logical story.” (Client Business Manager)

“Ensure strong messaging during product launches. And when we look at [company y], [region x] is really strong. Category interest targeting should be over [x]%, with competition rising.” (Analyst)

“What’s the so what here?” (Client Business Manager)

“Also, [Analyst 2] and I are putting together an [additional analytical view], and seeing what the results are.” (Analyst)

“It will be good, but these guys never get interested in this. It doesn’t flow. There are so many more factors.” (Client Business Manager)

“Ok so basically these three points then?” (Analyst)

The analyst and client specialist decided to organize their proposal and data according to the segment’s likelihood to purchase. They debated organizing it by users’ interest in the brand, category and other attributes such as a customer service within this broader “likelihood to purchase” framework. These segmentation bases are a subset derived from a much larger universe of possibilities. They validated this decision/orient to perceived interest of their clients based on past experience with advertisers, and a typified customer in this space. This work reflexively shaped the constitution of the customer and the segment base decision.

They worked with large sets of information about the customer and potential user segments to understand and communicate the opportunity. They continuously oriented

to the customer in order to understand how to select segment bases to fit with a typical company in that industry, and their typical advertising goals.

They did not rely exclusively on quantitative data about those segments to make this final decision. Instead, discourse and the members’ scheme of interpretation in that setting were critical. They did not discuss the company as a topic for its own sake; rather they drew on it as an orienting resource for putting together the segment proposal and how they consider advertisers collectively over time. Significant utterances in this example were representative of an underlying structure, and reference past cases used to form an orientation toward “these guys” (a set of companies). The client business manager explains: “If I was in the room, I would probably question that”, asks “what’s the so what here” and suggests “these guys never get interested in this stuff”. Rationale was contingently afforded to these decisions without speaking to the types of customers the employees were orienting to. Both employees entered the situation with different workplace and life experiences, yet were able to make decisions about segments collaboratively, achieved in part through this orientation.

The analyst and client business manager focused on the product behaviors of the segments. The focus allowed them to supplement, eliminate and reposition the lenses for organizing and communicating the segmentation model. The customer was referred to in a typified way with degrees of generality according to their needs. The way the segment model was discussed and considered is reflexively shaped by this orientation: “Keep tying back to product launch”. User actions were reconciled while projecting customer scenarios and fitting the model to those background expectancies: “What’s the user action? Maybe customer service I wouldn’t use. Because if I was in the room, I would probably question that. What does that mean? If you remove it, then you have a more logical story.”

The customer was used for comparative justification and construction of the segment’s specific product interest characteristics: “for a different example. I was doing it for [company x], they’re obviously smaller. I took [product category x]. Maybe I did three because that’s what mattered. You can see that [company y] really owned that time frame. See quarter over quarter. What will move the needle for you is product launches. Product launches work, they matter”. These comparisons [15], demonstrated a decision making process influenced by a distinct orientation to typified set of customers and the introduction of a customer constraint. They acted as a catalyst for the construction of a segment through a particular lens. Here that lens was grouping people by forecasted demand for a category of products during a launch in that category. The team fit the segmentation model to context discursively. This exemplified the interpretive constitution of segmentation models frequently positioned as automated,

standalone mathematical entities and decisions subject to empirical verification.

The client business manager does not identify mathematical problems or discrepancies with the model or changes that would substantially modify its makeup, yet oriented to a constraint of a tacit, scenic feature [9]. This orientation to customers and related data involves an interpretation of the statistical model to fit the case at hand, and was accomplished situationally through talk. This occurred whether or not the employees consciously recognize it as a mundane process. Segments were crafted and subdivided according to the advertising customer as a scenic feature, and their identity was shaped according to that historical segment talk.

Discursively selecting perspectives to view and talk about these segments was critical for expressing and optimizing the model. Although this did not materially change the characteristics of the people available for inclusion in the model, it had important ramifications for how the advertiser and client team engaged with those segments and seemingly how they will orient to future customers in their work.

DISCUSSION AND DESIGN DIRECTION

Analogous to past approaches to creativity [15], users in design [22], and quantitative model research in the institutionalized social sciences [9] I demonstrated how language is used and workers organize themselves to design segments through talk. I highlighted the mundane and interpretive work beyond the mathematical and technical practices of segmentation [9]. This work was not determined a priori as a static corpus of organizing principles for all segmentation work. Workers did not make the choice between the “archaic” sensory world of mad men, and the modern world of statistically grounded advertising. The intelligibility of segments in light of the omni-presence of the advertiser requires practically occasioned interpretation in both of these advertising worlds. This was as critical as the statistical capabilities for workers when *doing segmentation*.

I demonstrate some of the ways that workers prepare segmentation/targeting work for clients, and the mundane ways they configure and treat the model to make it work for that context. Segmentation models are not passively consumed and automatically passed from a statistical package to advertising production. Reasoning through these findings requires unique, local knowledge and interpretive work to determine what particular statistical output is appropriate for a particular type of advertiser.

We describe some of the choices, deliberation and practical techniques relied upon to do segment work. This work is additive to following advertising and analytics software training manuals to choose the right segment for the right advertiser. These segments need to “fit” the expectations of the advertiser, and the customer must see those segments as

reasonable for them to be successful. This is an alternative perspective to believing segments emerge ready-made from analytical software. Statistical output is not sufficient; workers need to see the customer in the model without having the customer in the room for every decision.

Thus, I recommend rethinking design strategies for integrating the advertiser and provider through collaborative software. When compared to consumer segmentation technology, less has been done to map disparate sources of analytics to support the B2B function and stakeholders of advertising engagements (although this is not limited to advertising). CRM systems provide a bi-directional opportunity to support some of the interpretive resources and practices observed here. I recommend building CRM and segment buying technology in a way that improves the efficiency of orienting to the customer when designing segment models. This would be a design that makes customers more “considerable” for segment decisions, and enabling subsequent segment decisions to produce signals to contribute to that “considerability”. I do not suggest interpretive work will be automated, but advocate for improved mechanisms to deliver intelligence that mitigates some of the economics of information challenges that naturally prevents customer contact [22]. The system would illuminate stakeholders segment *dividuum* scheme of interpretation and segment *beneplacitus* background expectancies as segmentation design unfolds. It would help parties mutually “see” segments in light of these phenomena rather than simply acting on a segment driven request for proposal from the advertiser. Beyond software design, this principle should also influence the engagement strategy between all parties.

CRM interfaces are dominated by account tasks and revenue. I recommend incorporating mechanisms to intelligently contextualize segments by drawing on the typificatory language and their ties to local context and scenic features. For example, displaying anticipated receptivity by a “type” of customer to a segment base option (e.g. positive responses types of advertisers to mobile store locators). These “intelligibility views” should be introduced early and dynamically updated as campaigns, the relationship, and related segments are built up. In simpler terms, show the chronological evolution of customer segments and their attributes. This should be shown in light of previous sentiment. Part of this involves a segment artifact remedy system that allows the advertising provider to identify and track currently undocumented, but discursively identified customer oriented imperfections from the segment model. The system should do this on a customer-by-customer basis. This concerns the advertising provider’s ability to monitor customer receptivity: model worthiness, client understanding, relative receptivity to technology, and priority bases for the purposes of both building and communicating segments.

Meaningfully integrating this work into software would facilitate the collaboration of customers and publisher alike.

This assumes that schemes of interpretation, such as how the customer is considered and referred to, are changing and dynamically updated. Who the user is, and how the client and service is typified and interpreted is expected to change, *and cannot be facilitated by statistics alone*. Part of this design work requires more attention to segments in the workplace. Focus should be diverted from statistical and technical methods, toward the underlying structures used to construct and communicate segments and the reflexive impact on the reality of client and future segments.

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