

Data collection is the process of gathering and measuring information on targeted variables in an established system, which then enables one to answer relevant questions and evaluate outcomes. Data collection is a component of research in all fields of study including physical and social sciences, humanities, [2] and business.

Resources Introduction The methods used by archaeologists to gather data can be applied to any time period, including the very recent past. One archaeologist in the U. Over the past years archaeologists have developed many effective methods and techniques for studying the past. Archaeologists also rely upon methods from other fields such as history, botany, geology, and soil science. In this section of Methods of Gathering Data you will learn how archaeologists gather and analyze information by utilizing historical research techniques, field methods for data recovery, and laboratory analyses. Back to top Historical Research Techniques Every archaeology project begins with a research design – a plan that describes why the archaeology is being done, what research questions it hopes to answer, and the methods and techniques that will be used to gather and analyze the artifacts and other archaeological materials. It will also outline where artifacts recovered from the project will be stored, and how the research will be reported and shared with the public. Archival research Archival research is often the first step in archaeology. This research uncovers the written records associated with the study area. If the area was inhabited during historical times in the past several hundred years in North America the archaeologist will look for primary historical documents associated with the study area. Primary historical documents that archaeologists may consult before beginning their field research include: Open this History Toolkit to learn more about investigating the past with primary sources. In addition to primary historical documents, archaeologists will look for site reports that have been prepared by other archaeologists who have studied this area. These reports will describe what was found in this area during any previous archaeological investigations and will help guide the new research. Documentation files for all of the recorded prehistoric and historic sites in each state are maintained in the State Historic Preservation Office, along with archaeological research reports pertaining to sites in the state. Oral History Oral history is another research method that archaeologists and historians may use to gather information. It includes any kind of information passed down by word of mouth, like stories you have been told about your family history, as well as traditions that your family observes. Archaeologists today collaborate with descendants of Native American peoples, and with African American communities who are only a few generations removed from the lives of their enslaved or free ancestors, to better understand the cultural traditions of their pasts. Archaeologists working on the 19th century Levi Jordan Plantation in Texas have interviewed descendants of both the plantation owners and the enslaved plantation workers as part of their research. They have created the Levi Jordan web site to share this information with the public and to allow the public to communicate with the archaeologists. At Castle Rock Pueblo in southwestern Colorado archaeologists have learned about the past culture of the Anasazi peoples through both the objects left behind, and the oral traditions of modern Puebloan people. Now get ready to take an electronic field trip back in time to Castle Rock Pueblo in AD and solve a mystery while you are there. In the Field While historians and archaeologists both use written documents to learn about the past, only archaeologists are trained to find and interpret archaeological sites. Here you will learn about some of the field methods archaeologists use to find sites and, when necessary, to excavate them. A trowel is used to carefully remove thin layers of soil from test units. Of course, many other tools are used by archaeologists in the field and lab to dig, sift, measure, and analyze artifacts. View some of these computer animations of tools and equipment that archaeologists use. Others, like tape measurers, toothbrushes, brooms and dustpans, are household objects! You can also view photographs of archaeologists using some of these tools on sites. How Do You Find Sites? Archaeologists use a number of different methods to find sites – and sometimes they are found just by accident! The prehistoric burials at Low Hauxley on the coast of England were discovered by an observant beach walker who noticed a stone box sticking out of a sand dune after a storm. A burial ground with remains of more than 17th and 18th century Africans was discovered during building construction in New York City. An archaeological predictive model is a tool that indicates the probability that an

archaeological site will occur in a certain area. It helps determine where you look for sites based on factors like distance from water, ground steepness, soil type, and other factors that influence where people settle or perform certain tasks. The methods used to find sites will depend upon the kind of research questions that the archaeologist is trying to answer. If highway or housing construction is planned, archaeologists may need to know of any archaeological sites on the property. First they will check if any previous surveys have been done in the area and, if so, what was found. If no previous sites have been recorded, the archaeologist will conduct an archaeological survey to determine if the area contains any sites. If sites are found, the archaeologist will want to know how many, their location, and how the sites relate to each other. Usually, to save time and money, only a sample of the area is tested.

Surface Surveys A surface survey is a systematic examination of the land. A team of archaeologists will walk in straight lines back and forth across the study area looking for evidence of past human activity, including stone walls or foundations; artifacts made of stone, ceramics, or metal; color changes in the soil that may indicate features such as hearths, middens garbage pits , or storage pits They will use a compass and long tape measure to make sure they walk in a straight line and will record the exact location of all evidence they find. Artifacts are collected and put in bags with a label of their exact location. Features, which cannot be removed, are photographed and drawn. This technique is useful in plowed fields. Usually test pits are done where the ground has not been farmed or plowed and it contains a lot of surface vegetation. The soil may be screened sifted to recover small artifacts and often profiles pictures of the test pits are drawn to record what the soil looks like in each unit.

Geophysical Surveys There are a number of non-invasive techniques archaeologists can use to find sites without having to dig. Examples of geophysical surveys that do not involve disturbing the soil include are magnetometry , resistivity and ground penetrating radar or GPR.

Evaluating Site Significance After conducting a survey an archaeologist will have enough information to determine if any significant archaeological resources are located in the study area. The archaeologist will write and file a site report in the State Historic Preservation Office, which describes their research. If significant sites were found, an excavation may be planned. In the next section we will discuss how important data is recovered from archaeological sites through excavation.

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Data Recovery

Believe it or not archaeologists do not often excavate dig entire sites! Archaeology is a destructive science—meaning that once a site is excavated it is gone forever. The artifacts and information gathered remain, but the site itself can never be recreated. Excavating sites is also costly and time consuming. Once the dig is done, archaeologists have a professional responsibility to analyze all of the artifacts and information obtained, to report on their research in scholarly journals and to the public, and to curate the collections. For all of these reasons, archaeologists generally excavate sites only when they are threatened by destruction from construction or development or when they may reveal important information about past cultures. And they usually excavate only a small portion of any site. Although archaeologists work on all kinds of sites and in all parts of the world, the same basic process is followed everywhere when an excavation is planned.

Research Design Before an excavation begins, archaeologists write a research design. This important document is reviewed before archaeologists are granted permission to excavate a site. If an American archaeologist wants to work in a foreign country, permission must be granted by the appropriate agency in that government. Tribal Indian lands in the U. Once a research design is approved and permits area granted, a team is put together and the necessary tools and materials are gathered.

Gridding the Site Once a site has been excavated, it is gone forever. Because of this, archaeologists must record exactly where all of the artifacts and features on a site are located. Before any soil or artifacts are removed from a site, a site grid is created. A datum point, or fixed reference point from which all measurements are taken, is established and a rectangular grid is superimposed over the whole site. Each square in the grid is precisely measured and assigned a number. These squares are often referred to as units. This system allows the archaeologist to create a precise map of the site and to record the exact location of all the features and artifacts on the site.

Excavating a Unit Archaeologists use a statistical sampling method to select which squares or units they will excavate. To begin they will collect surface artifacts, then remove any ground cover using a shovel and trowel. All soil removed from a unit is screened sifted to recover small artifacts and ecofacts whose exact location, both horizontally and vertically, is recorded. Artifacts from each unit are stored in plastic bags that are labeled with the site and excavation unit

numbers and level. The unit may be dug in arbitrary levels such as every 10 cm or by following the natural stratigraphy layers of the unit. These short video clips show how to prepare a test unit for excavation.

Stratigraphy Over time both natural processes like the decay of organic matter, and cultural caused by humans processes, create soil layers. In cross section these soil layers resemble a layer cake, with the oldest layers on the bottom and the most recent layers on the top. This is called the Law of Superposition and is one of the most important principles in archaeology. Stratigraphy is the study of geological or soil layers that is used to determine the relative age of each layer. There are many factors that can disturb the stratigraphy on a site and make it hard to determine the relative ages of the layers. Look at how 4, years of natural and cultural processes can combine to create and disturb the stratigraphy on an archaeological site. Stratigraphy is one clue used by archaeologists to determine the relative age of an artifact or site. In the next section we will look t other ways of determining how old something is.

Back to top In the Lab Archaeologists spend much more of their time in the laboratory analyzing artifacts and data than they do in the field. In this section, you will learn how archaeologists analyze artifacts, features, and other information recovered in the field to help answer their research questions. During the investigative process, they also seek to learn when site was occupied, the purpose of the objects recovered, what the people ate, the kinds of structures they lived and worked in, with whom they traded, and much more. They may also look at how the site they are analyzing relates to other sites that are nearby or quite distant. The analysis will depend upon what research question the archaeologist began the project with. Stratigraphy can determine the relative age of soil layers and artifacts and can help us understand the order in which events occurred. However if an artifact of known age such as a coin with a mint date is found in a soil layer it can tell us when something occurred. Tree-ring dating, or dendrochronology is one of the oldest dating methods used by archaeologists. It is based on the principle that trees produce growth rings each year and the size of the rings will vary depending upon rainfall received each year. Archaeologists have built up long sequences of rings from tree trunks that extend back centuries. In the American Southwest tree ring dating goes back to 59 BC.

Chapter 2 : Tool Data Gathering Methods

Overview of gathering data from trends and reports Usage Data If you are renovating a new space or designing a completely new space, there might be data already gathered at your space's organization that will be valuable for helping you make decisions.

Record all your data in sync with just one push of a button. You can record subjects, behaviors, and modifiers by typing shortcut key codes, allowing you to keep your eyes on the scene, while coding at great speed. The time of each code is recorded automatically and errors are prevented by an on-line check. Up to characters per event can be used to comment on behaviors or write down notes. Text is presented in the event log and in a separate window. View the video and code behaviors accurately. David Baron University of Southern California Work with video and audio The use of video adds great flexibility to behavioral studies. It allows you to make detailed observations and frame accurate descriptions of fast moving phenomena. Audio signals are visualized providing another great visual aid when observing behavior. Use the playback functions to easily position the video, play it back at different speeds, play it frame by frame, and play multiple videos at the same time. All data play in sync: You can set a loop in the video and audio files to code this episode in great detail, or use the quick review button to take a small step back in the video. After the observation, you can easily create a video highlights clip by using the improved episode selection. With The Observer XT, you can combine data from different sources in your observation. Viso is the multi-room video recording suite and MediaRecorder is ideal when you want to combine up to 8 different video and audio signals from a wide range of different cameras and microphones. Videos can be stored separately or combined into one video stream. Of course the audio can be recorded in sync with the video. This tool is best suited for observational research where subjects can be observed without their awareness, which adds to the authenticity of findings. It is easy to use and gives data that can well be statistically analyzed. Synchronization is guaranteed by using The Observer XT. Sections of the physiological data correlating with interesting behaviors can be exported for further analysis. Using this setup ensures high data quality. Read more about The Observer XT - the ideal integration platform. The Observer XT is the ideal integration platform. Synchronize physiological data with manually annotated events and more. This simplifies start and stop of the eye tracking recording and synchronization with the Event Log in The Observer XT. Read 18 reasons why The Observer XT is the ideal integration platform. It enables you to ask your test participant three different types of questions: Combine video and event data with a participant survey. Collect quantitative and qualitative data. Find answers quickly by using the find functionality in The Observer XT. Analyze data in The Observer XT. The Observer XT shows you all activity on one timeline. Record user-system interaction automatically. Increase the consistency of user experience observations. Log Windows applications accurately and in great detail. Select data of your choice using the advanced filter function in The Observer XT. Use a tablet in combination with Pocket Observer to code behaviors on-the-go. Code on-the-go using Pocket Observer. It combines the power of The Observer XT with the portability of a handheld computer, Android phone or tablet. They limit the use of The Observer XT to coding and visualization only. Systematic observation software is a powerful tool for archiving and managing large data sets.

Chapter 3 : Data Gathering and Consolidation with Excel

Start studying Gathering Data. Learn vocabulary, terms, and more with flashcards, games, and other study tools.

Unfortunately, it can also be one of the most stressful, sleep depriving, homicidal phases of completing a project – for me at least. And this is where the sleep deprivation starts, as you realise that the database will need to be edited, or possibly even rebuilt from scratch! Our sanity can be saved with a proper analysis to begin with. If you try to interpret the information as you collect it, this too can lead to disaster. So how would I get the data from the client? Interviewing the Client Why interview the client? So perhaps your chances of interviewing the client will be higher. Unfortunately for us, the majority of clients have a tendency of thinking visually: Because changing visuals can usually be done easily and quickly, the client may often think this ease applies to every kind of change. Now, how do I get the right information out of a client? Well, I generally approach interviews with the following points in mind: Interview Rule Number 1: The word is "interview", not "interrogate". So the best way to approach the interview is tactfully, and to avoid frustrating your client, overwhelming them, or making them feel like an idiot. Interview Rule Number 2: Enter with an agenda and ask the right questions. The best opening question might be "What do you want from this project? This should hopefully give you a clear idea of what they want. Be prepared to listen, and take notes – lots of them. Interview Rule Number 3: Well, this can also happen in the data collection process. If you only use the ideas voiced by the first or loudest, or boldest person you talk to, then you may not get the information you need to build a suitable database. Interview Rule Number 4: Make sure you understand what the client wants. Making sure you know exactly what the client wants is important. Make sure you thoroughly understand what they tell you. If in doubt, ask for clarification. Interview Rule Number 5: Record what the client is looking for and any important data they provide. If understanding what the client wants is critical, recording this information is a necessity. Write down all the important points covered by the client. You might even go so far as to record or even video the interview, for a complete and more in-depth set of notes. To me, identifying the right questions was one of the hardest things to do. So here are the questions I always ask – make sure the client answers these fully, and be sure to include relevant questions tailored to your specific project as well: Who will generally use the data? In answering this question, the client might inform you of other people that you may need to discuss the project with. It will also tell you whether the database is to be used in-house or publicly. How will the data be used? Is your data simply to be used on the company intranet? Or will the same data need to be available in a different format on the public Website as well? Obviously the options will depend on the job – make sure you ask! Where is your data now? Never in my work experience has a client handed me one database or one source that contained all the data. As you seek out data from the client, it will be handed to you in all kinds or formats! Spreadsheets, mainframe data, desktop databases, paper brochures and filing cabinets are just a few. How much is the data worth? The client should always be informed of the value estimate for all the data available. This means that the client is able to make decisions that may save funds, and make your life easier! What rules do you want to apply to the data? Rules can be important for maintaining data integrity. Like just about everything else, most businesses use rules to govern their data. Ever filled in a form that said it needed your email address? Or wanted your phone number broken into three? These are data rules, and they govern how the data should be formatted, what type of data it should be, etc. If the client says they want a first name, middle name and a last name for their contact database, then we consider this a rule. Getting Rules Ask your client what rules they have for their data and they generally look at you with a confused expression. The information you gather from the old database can give you a good idea about what kind of data you can expect to find. However, unless the job simply involves tweaking this old system, then only use it as a reference point. Reports, Spreadsheets, Forms and Filing Cabinets Just about every company can lay claim to asking customers to fill in forms, having tons of data in spreadsheets, and stacks of information in filing cabinets. But now you know how to interview the client and look for data rules – often the toughest steps in the process. Good luck, and may the schema be with you! His pride and joy, apart from his fiancée, is his e4ums site, which offers free ASP applications.

Chapter 4 : Methods of Gathering Data

In this section of Methods of Gathering Data you will learn how archaeologists gather and analyze information by utilizing historical research techniques, field methods for data recovery, and laboratory analyses.

It takes about two years from start to finish to make a Magic set. Think about that for a moment. Lost in Thought Art by Ben Thompson At least for the design portion, a ton of that work could theoretically be done in a vacuum. Come up with mechanics, build a file that is fun, then put it on ice until it is time to develop it. Sure, we could start work on the fall Magic set right now, finish it, and just wait for release. But that would have some serious quality concerns. For one thing, we certainly improve things over time within the building by improving our processes. Would it really be so bad? When a set is released to the public, we read social media, forums, and strategy site reviews, watch YouTube videos, do godbook studies, and look at organized play attendance and set sales. We then use this information to influence our decision-making in the future. The idea is that after a Pro Tour, we can review how it went and how people reacted to the set, and figure out if we want to make any changes to the next set in development before it gets finalized. Nothing that will keep it from existing for the rest of its time in Standard, but something that can hate on it if it begins to occupy too much of the metagame.

Informing Bans It takes a lot of games to create meaningful data for Magic. The thing is that each match takes around 50 minutes, and if you are just looking at tournaments then you have a very limited number of matches each week to examine. We can look at what decks are winning, as well as the Top 8 decks at independent tournament series, and use that as a baseline for what the Magic populace enjoys and what is succeeding. Fortunately for us, we do get a ton of very useful data from Magic Online. Between Leagues, on-demand queues, and premier events, we know a lot about the decks that are winning. Beyond just seeing what won, we also get very accurate matchup percentages as well as percentages of decks in the metagame. By analyzing all of this data, we get a pretty clear idea of just how healthy a metagame is. The first, most obvious thing to look for is whether or not any deck has a positive matchup against every other major deck in the field. When your worst matchup is the mirror, chances are you are going to get banned. We also look at the rest of the decks in the format and make sure there is a good amount of diversity. If the top ten decks, by percentage of people playing them, all use the same basic strategy, then we probably need to either ban something or look at unbanning something if it is a format with banned cards. And these two were not that long ago. Fortunately, that generally takes longer than the life of a format to figure out, and as we add new cards or rotate, we add noise or disrupt the time to figure it out. When one deck is more powerful than everything else, though, it can mean that new sets will have a very hard time changing things up without power creep. For that reason, we do occasionally have to ban cards in non-rotating formats to keep them fresh. At the same time, cards that used to be too powerful by themselves or in combination with other cards can occasionally be safe to remove from the ban list as new cards are released and new strategies take over. By using all of the data available to us, we hope to create the best version of all of our formats that we can—“the one that makes the most players happy, and provides the most diverse and fun gameplay experiences. I will talk about this in more detail in a future article, but the short and simple version is that we look at the top three commons in each color and make sure that, in aggregate, they are at about the same power level. Some amount of both is important; if the facts point to there being a static pick order for a set, and people are just taking the strongest thing every time, we have probably done something wrong. As an example, when looking at Battle for Zendikar Limited, we have some very solid data that green is too weak. Obviously, there was nothing we can do with that data to change Battle for Zendikar, or even Oath of the Gatewatch, but we can use it to improve our sets in the future, to figure out what went wrong and prevent it from happening again. Taking the Pulse Ultimately, our goal for Magic is to make it the strongest game possible for the players, not just for the people making the game. It is easy for us to get very isolated in our thinking and to focus too heavily on the things we like without finding out what our customers want. Products like the Commander sets came from players asking for more cards in that format, and our desire to do it in the best way possible. On a card-by-card level, we listen to what people ask for and to what people like in sets.

Chapter 5 : Data Collection Techniques | CYFAR

Gathering the Data: Use of Record-Keeping Systems in Budgeting What is a record-keeping system? A record-keeping system is a planned, methodical approach to collecting, filing, and storing documents that are.

Chapter 6 : Data collection - Wikipedia

The creative process isn't just "generating ideas." The reality is it's a five-step process, and ideation is only one of those steps. The entire creative process is made up of objective finding, data gathering, problem design, ideation, and selection.

Chapter 7 : Clann: Ireland's Unmarried Mothers and their Children: Gathering the Data

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

Chapter 8 : Data Gathering Tools | Learning Space Toolkit

This paper is about the importance of gathering data within the context of creating, implementing, and monitoring a strategic plan. For the context surrounding a strategic plan, an.

Chapter 9 : Gathering data | Noldus

Data Collection Techniques. Information you gather can come from a range of sources. Likewise, there are a variety of techniques to use when gathering primary data.