Data gathering

Data Gathering âž¢ used to discover business information details to define the information structure âž¢ helps to establish the priorities of the information needs âž¢ further leads to opportunities to highlight key issues which may cross functional boundaries or may touch on policies or the organization itself âž¢ highlighting systems or enhancements that can quickly satisfy cross-functional information needs âž¢ a complicated task especially in a large and complex system âž¢ must be organized to ensure that nothing is overlooked and all system details are eventually captured âž¢ must identify most if not all system problems, user requirements and objectives âž¢ must avoid repetitive actions âž¢ a search strategy is necessary to achieve the above criteria Sources of Information âž¢ System users Usually the first information source investigated by analysts âž¢ Forms and Documents Useful sources of information for data flows and transactions âž¢ Computer Programs Used to determine the details of data structures or processes âž¢ Procedure Manuals Specify what people do in an organization, used to determine user activities âž¢ Reports Indicate the kinds of outputs needed by the users Steps in Data Gathering âž¢ Schedule initial visit to user site âž¢ Gather and read background materials âž¢ Establish data gathering objectives âž¢ Determine what data gathering techniques to use âž¢ Identify contact persons âž¢ Schedule data gathering activities âž¢ Assign to data gathering teams âž¢ Identify deliverables Generic Techniques âž¢ Observation âž¢ Searching existing and special purpose records âž¢ Sampling âž¢ Questionnaire âž¢ Written Reports Face to Face / Group Communication âž¢ Interviews âž¢ Meetings and presentations âž¢ Vendor presentations âž¢ Visits to other installations âž¢ Data Collection âž¢ External Research Observation âž¢ A simple watching or looking at how the

components of the system interact with one another. âž¢ Conclusions derived from this method are inferential in nature and may be inductive or deductive. âž¢ Kinds of Information sought in observations: o activities o messages o relationships o influence âž¢ Some Common things to observe: o Office conditions - Noise, lighting, temperature, etc o Layout- Ample space for staff movements, Access to filing cabinets, etc o Furniture- Ample desk size, filing cabinets, etc., Standard Furniture o Workload- Regular load, Peak/Slack Periods o Bottlenecks- Uneven distribution of workload, o Redistribution of workload o Pace of Work - Time and motion study o Methods of Work - Processing sequence, Red tape, Supervision âž¢ Analysts use observation for: o gaining information about decision-makers and their environment o helping to confirm what has been found through interviewing and questionnaires o negating or reversing what was found by other methods âž¢ Seven concrete elements to be observed: o office location o placement of the decision-maker’s desk o stationary office equipment o props o trade journals and newspapers o office lighting and color o clothing worn by decision-makers Time Sampling âž¢ a method of choosing the time to set up observation activities âž¢ allows the analyst to set up specific intervals at which to observe manager’s activities âž¢ allows for a representative view of activities that occur fairly frequently âž¢ advantage is cutting down on the bias that might otherwise enter in observations âž¢ a drawback is that gathering data in a piecemeal fashion may not allow and event to unfold in its entirety âž¢ rare or infrequent but important events may not be represented in the time that is sampled Event Sampling âž¢ provides for observation of an integral behavior in its natural context âž¢ a drawback is that it may not allow for âž¢ a representative sample of frequent

occurrences Body Language âž¢ allows the analyst to better understand the information requirements of the decision-maker by adding dimension to what is being said âž¢ precise interpretation on a movement by- movement scale may prove a little difficult for someone new in the field Interview âž¢ The verbal asking of questions to system player âž¢ The most widely used method for data gathering in systems analysis o interview preparation o systems analyst should never go unprepared to an interview session with the system players o the possibility of rendering the whole exercise practically useless o there is the danger of imparting to the client an impression of non-professionalism o they may perceive a lack of seriousness towards the systems development task at hand âž¢ Preparation for an Interview: o Read Background Information â–ª Read and understand as much background information as possible â–ª Check current Annual Reports, corporation newsletters, other publications â–ª Be particularly sensitive to the language the organization members use in describing themselves and the organization âž¢ Establish Interviewing Objectives â–ª Use background information and your own experience to establish the interview objectives âž¢ Decide Who to Interview â–ª Include people at all levels who will be affected in some way by the system â–ª Strive for a balance so as many users needs are addressed as possible Question Types âž¢ Open Ended Questions o general questions that allow the interviewee to answer as they please o Benefits â–ª puts the interviewee at ease â–ª allows the interviewer to pick up on the interviewee’s vocabulary â–ª provides a richness of detail â–ª makes it more interesting for the interviewee â–ª reveals avenues of further questioning that may have gone untapped â–ª allows for more spontaneity â–ª one can also use them in a pinch if the interviewer is caught unprepared o Drawbacks â–ª the

interviewer might be asking questions that may result in too much irrelevant detail â–ª there is a possibility of losing control of the interview â–ª some responses may take too much time and the interviewer may be at a lost on how to cut it short â–ª it may be misconstrued as unpreparedness on the part of the interviewer â–ª it may also give the impression that the interviewer is fishing for information âž¢ Closed Questions o specific questions in which the response is limited to a finite number of choices. o Benefits â–ª saves time â–ª makes it easy to compare interviews with different players â–ª allows the interviewer to get directly to the point â–ª gives the interviewer control over the interview â–ª the interviewer can cover lots of ground quickly â–ª faster at getting to relevant data o Drawbacks â–ª may prove to be boring for the interviewee â–ª fails to obtain rich detail â–ª if not properly thought of, it might miss on main ideas â–ª fails to build rapport between the interviewer and interviewee o Probes â–ª used to obtain more detail on questions you have asked â–ª example: - “ Could you please elaborate on that? " - “ Could you give me an example of that? " Beginning the Interview âž¢ Shake hands and introduce yourself. âž¢ Make eye contact and smile. âž¢ Begin with easy, open-ended questions to create a comfortable atmosphere. âž¢ Let the interviewee know what you expect, i. e., in-depth or brief responses. Types of Interview âž¢ Structured Interviews o Structured interviews are easier to evaluate. o They also require less time. o Little training is needed to conduct it. o The interview is more controlled and reliable. o It allows the interviewer to anticipate possible responses and how to follow them. âž¢ Unstructured Interviews. o Unstructured interviews allow for spontaneity and interviewee insight. o They are also more flexible, allowing for both breadth and depth. Arrangement of Questions in Logical

Sequence âž¢ Pyramid Structure. o Inductive o Specific to general type questions o Closed to open-ended used to warm up interviewee âž¢ Funnel Structure o Deductive o General to specific type questions o Open-ended to closed o Easy non-threatening way to begin o Freedom to express emotions o May save time by not having to answer as many closed questions âž¢ Diamond-Shaped Structure o Specific to general to specific o Closed to open-ended to closed o Warm up with specific questions, then ask opinions, then close with important specific questions Disadvantage: Takes longer Advantage: Keeps interviewee interested Troubleshooting During the Interview o While the interview is going on, the systems analyst also has to be sensitive to the following: â–ª Perceived threat to the interviewee’s self-image â–ª Emotional reaction to stressful subjects â–ª Mistaking occurrences of events in time â–ª Observing traditional social forms â–ª Mistaking what is inferred for what is observed â–ª Rival demands for time â–ª Forgetting key facts â–ª Lying about key fact Closing the Interview o To close the interview, analyst may use double check responses. “ Is there something we haven’t touched on that you feel is important for me to know? " If no further issues need to be taken up, inform interviewee about subsequent steps. Recording the Interview âž¢ Tape Recorder o tell the interviewee beforehand. If interviewee refuses, then accept his or her decision. Advantages o Complete record of what has been said o Interviewer can listen and respond more rapidly o Better eye contact o Replay of the interview to other team members possible Disadvantages o Interviewee may be less apt to respond freely o Interviewer may be less apt to listen because he or she feels it is not necessary because of the backup o Difficult to locate important conversations on tape o Increased costs to transcribe tapes âž¢ Note taking

Advantages o Complete record of what has been said o Keeps interviewer alert o Helps recall important questions o Show the interviewer’s interest o Demonstrates the interviewer’s preparedness Disadvantages o Lose eye contact o Lose train of thought o Makes the interviewee hesitant o More attention to fact than opinion Questionnaires o a set of prepared questions are sent to the system player source and the answers given back to the systems analyst Forms analysis o The systems analyst collects all forms, reports, input and output screen formats, etc. used in existing or similar situations o The data elements are then analyzed for completeness and relevance to the requirements being established Research o Best used as a complement to the other methods o Usually focuses on information relevant to the system being studied but may not necessarily be residing in the system itself Sampling The process of systematically selecting representative elements of population âž¢ The need for sampling o Speeding up the data gathering o Improving effectiveness o Reducing bias