MANAGING CHANGE IN THE DIGITAL NEWSROOM

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ABSTRACT

THE TOTALLY INTEGRATED DIGITAL NEWSROOM, WHICH WAS CONSIDERED A DREAM FOR MANY YEARS, HAS NOW BECOME A REALITY, WITH OPERATIONAL SYSTEMS IN USE AROUND THE WORLD. THE EARLY SYSTEMS WERE SPECIFIED, DESIGNED AND INSTALLED IN PARTNERSHIP ARRANGEMENTS BETWEEN FAR-SIGHTED BROADCASTERS AND MANUFACTURERS. ALTHOUGH STILL FAR FROM AN OFF-THE-SHELF COMMODITY, DIGITAL PRODUCTION SYSTEMS HAVE COME A LONG WAY IN THE LAST FOUR YEARS.

THERE WERE PROBABLY TWO KEY MANAGERIAL THEMES DRIVING THE DIGITAL NEWS MOVEMENT: SPEED AND EMPOWERMENT.

SPEEDING THE PROCESS OF TAKING NEWS PICTURES TO AIR, USING THE NOW WELL-KNOWN ADVANTAGES OF SERVER-BASED PRODUCTION.

EMPOWERING EVERYONE IN THE PRODUCTION TRAIN BY GIVING THEM ACCESS TO MEDIA, AND SIMPLE BUT EFFECTIVE TOOLS TO CARRY OUT THEIR TASKS.

WHETHER JOURNALIST, PRODUCER, CAMERA OPERATOR, PICTURE-EDITOR, ARCHIVIST OR MANAGER - EVERYONE IS ABLE TO SEE AND MANIPULATE NEWS MEDIA AT THEIR OWN DESK. THOSE PREVIOUSLY EXCLUDED FROM THE DIRECT PRODUCTION PROCESS, BY SKILL OR ACCESS, ARE NOW FULLY INVOLVED.

TO MANY, THIS LAST POINT SOUNDS THE MOST SEDUCTIVE OF ALL - BUT IT CONCEALS ONE OF THE KEY ISSUES UNDERLYING THE 'DIGITAL CONVERSION' PROCESS AND AN ISSUE MISSED BY MANY BROADCASTERS. IT IS TEMPTING TO BELIEVE THAT THE PROBLEMS OF DIGITAL NEWS PRODUCTION ARE ENTIRELY ROOTED IN ENGINEERING AND THAT MANUFACTURERS HAVE THE POWER TO SOLVE EVERYTHING - SOME OF THE BIGGEST QUESTIONS HAVE LESS TO DO WITH ENGINEERING AND MORE TO DO WITH THE PEOPLE AND THE PROCESSES THEY HAVE EVOLVED.

BEFORE EMBARKING ON A PROJECT OF THIS KIND, THE BROADCASTER NEEDS TO CONSIDER THE FOLLOWING:

WHAT IS THE OBJECTIVE OF ALL THIS?

HOW CAN I ENSURE THAT EVERYONE IN THE ORGANISATION UNDERSTANDS THE NEEDS AND THE REASONS FOR CHANGE AND WILL ADAPT TO A NEW WAY OF WORKING?

DO I FULLY UNDERSTAND HOW EVERY PART OF THE ORGANISATION IS WORKING NOW?

HOW WILL THE NEW SYSTEM FIT THAT MODEL AND WILL IT ALLOW FOR FUTURE EXPANSION?

DO I WANT TO FIT MY CURRENT WORKFLOWS INTO THE NEW TECHNOLOGY OR CAN I USE THE OPPORTUNITY TO REDESIGN THE WHOLE PROCEDURE AND BUILD A NEW BROADCAST FORMAT FOR THE FUTURE?

THIS PAPER TRIES TO ANSWER THESE QUESTIONS.

INTRODUCTION

With all the discussion around the industry during the last few years, most broadcasters will probably have convinced themselves of the positive benefits of servers over tape; the classic arguments of wide availability, instant access, better technical quality and so on. A common misconception, however, is to assume that their entire operation will translate directly from traditional tape to digital with just a little re-training and some minor alterations to procedures.

The reality is quite the opposite; everyone will need re-training, from CEO downwards and the new skills are not simply the physical skills of learning to use new equipment or applications but a whole new mind-set. Each individual needs to understand the benefits to them and to their organisation and how their contribution fits into the new production model.

During the changeover there must be an acceptance that some concessions will have to be made. Editors won't be as fast, everyone will make mistakes with automation equipment, there WILL be problems with the system while it 'beds in'. Even with very careful management it is likely that (hopefully minor) on-screen impairments will be visible to the viewer in the early days.

The stresses and strains within the broadcaster's organisation can be minimized if the training programme starts early. Not specific training with the equipment, but a steady flow of information: how will the new station work, why will it be better and most importantly - why the management believe it will benefit everyone in the company. A small of amount of 'buy-in' at this stage could pay large dividends further down the line.

In a successful implementation this information process is on-going. With regular updates on the progress of the project, details of snags and how they are to be resolved and a continuing re-enforcement of the new production ethics.

Sever-based systems put power in the journalists' hands - but power brings responsibility.

REASONS FOR CHANGE

The first consideration, of course, is why go through this process at all? The answer is likely to be a combination of the following:

- Greater efficiency - the same ouput with fewer people; or more output with the same people.
- Better quality - reduce end to end losses through analogue generations, multiple digital processes.
- Respond to market forces to provide 21st Century programming on TV, Radio, Web, WAP etc. etc.
- Better utilisation of media resources. Generating new revenue streams from existing assets - both daily acquisition and archive.

With the objective clearly defined, the first stage of the process should be to define the starting point: What are we doing now, and how are we doing it?

THE STATUS QUO

Many installations will be in existing broadcasting centres, where the systems, equipment and operational practices already in place will have grown up over a period of many years. There may not be any one individual in the organisation who fully understands how the whole station functions and many 'local arrangements' may be operating where essential services are provided in a totally ad-hoc manner.

A crude example of the latter may be the use of edit suites as a recording resource during 'input overload': There are periods of time, like Saturday afternoons in Britain, when large numbers of sports events are occurring simultaneously and the normal tape recording resources are unable to cope. A tape editing suite will probably have the facility for recording sources on the station matrix and may be used to fill the gap, quite possibly without having to halt editing operations. This is fine, but it distorts the perception of how many input recording ports are required and in this case a straight copy of the standard ingest facility may prove inadequate.

Surveys

Before starting to plan a new system, the broadcaster should gather as much information as they can about the system currently in use. The supply and demand for recording, editing and playout resources; volume of movements to and from archive; the daily volume of input traffic - how many hours do they record from Lines every day and what is the volume of hand-carried ENG material arriving.

Ideally, the survey should be conducted over a period of at least four weeks of 'typical' output. i.e. not in mid-summer or other holiday periods when the news agenda is often quieter. Don't forget that one the principal engine of news, whether at local, national or international level is politics. Politicians have long holidays and generate fewer stories when parliaments are not in session.

At the end of the process there should be sufficient information to paint a picture of the peaks and troughs of production around the clock and to analyze the work according to the complexity of equipment and skill-level required. At ITN we produced three graphs:

1. Showing the number of simultaneous edits of any kind occurring at any time (in 15 minute slots) during the 24-hour period.
2. Showing the number of 'high-end' edits, like packaged items with voice-over occurring at any time, again, in 15 minute slots.
3. Showing the number of simple cuts-only edits.

Interpretation

The first graph should clearly indicate how much editing capacity is required throughout the day. It will probably have something approximating to a 'sawtooth' curve, with demand increasing steadily up to the start of news broadcasts, with a fairly steep drop afterwards.

The second graph will show how many high-end suites would be required to cope with peak demand for basic news production, i.e. ignoring the above.

The third shows how much work could be handled by a browse-style cuts-only workstation, probably in the hands of journalists or others without specific picture-editing skills. Taken together, the second two curves will show the ratio of high-end to browse editing work stations and will form the basis of the system definition.

Don't forget to factor in other demands on video access and editing: viewing-only access; editing for promos; trails; training are all important. Plus some spare capacity for use during technical emergencies or when the truly extra-ordinary happens.

Server Ports & Capacity

Deciding on the volume of server storage is probably the most challenging issue - mistakes can be extremely costly and there's no instant remedy for a shortage of recording time. At ITN, the biggest news story in their history up to that date, the death of Princess Diana, occurred during the planning stage of the project, and this helped shape the decision-making on many issues . In just seven days they learned how much material could arrive during such a major world event, and how much editing would be required to process and transmit it.

There will always be concerns that server space is inadequate, however much is installed. You will install as much as you need, plus a generous margin for contingencies, and manage the use sensibly. Broadcast production servers are not the best place to keep medium and long-term archives; tape-based video or data storage is much cheaper.

The number of nodes, or ‘ports’, on the system is also important. Specifying the number required, however, may not be totally straightforward. The operation and performance of the various systems on the market does vary quite widely; simply replacing every VTR in the facility with a server port may seem the obvious thing to do but could be extremely wasteful, make the system unnecessarily complicated and fail to yield the productivity and savings benefits originally planned.

PLANNING ISSUES

Media Management

Servers may be amazing machines, but they can’t empty themselves. They need people to look after them - and in a busy news environment it can be a full-time job.

Most larger organisations will have had a VTR or editing supervisor post in place for many years and this may the basis for the skill-set required for media management. But there’s no reason why the station manager, a picture editor or a journalist shouldn’t take on this function. Whoever does it, the job will include the following basic tasks:

- To ensure that required incoming material is recorded and properly labeled to enable users to find it quickly.
- To allocate editing resources to newsroom demands.
- Track the progress of editing and ensure that all items for transmission are complete and ready in good time.
- Assist with the off-loading of important material for archiving.
- Regular deletion of time-expired material to maintain a healthy level of server space.

Naming Conventions

It is likely that the media manager(s) will take part in the development of the working practices to be used in the new server environment. One of their first jobs is to design a naming convention.

Naming conventions for tape recordings are often chaotic. All news organisations would like to think they run a coherent and rigidly-observed system for labeling tapes and tracking their location as they pass from edit suite to edit suite and on to the replay area. In reality, they often fall apart at critical times, like when a major story is breaking and the ingest system is flooded.

A convention for labeling incoming material, so that clips are easily associated with a particular story, is essential. Without this, most of the benefits of servers are thrown away. There’s no point putting material on everyone’s desk if they can’t find the pictures they need - quickly.

For edited clips there will need to be further conventions to identify finished items intended for transmission and differentiate those from work in progress. Again, depending on the automation system in use, codes may be developed to help distinguish completed transmission items. Experience has shown that a transparent and intuitive system will make for fewer on-air errors.

Process Flow

The very least the broadcaster has to work out is how they will produce their programmes using the new technology. This sounds obvious, but the worst way to deal with this issue is to take the obvious path. i.e. to translate every current operation with tape recording and editing and translate that directly to server working. Many production systems will have evolved around the inherent strengths and weaknesses of tape-based production. For example:

- Tape is very fast if all you want to do is add one shot from a single cassette on to the end of an existing edit. Like adding a 'piece to camera' on to the end of a package.
- A tape recording of a short studio insert (like a titles sequence) can be rewound and played back extremely quickly, by a human operator. There's no need to grab another port and perform clip-trimming and renaming operations, a cue-point can be entered on the fly.
- Tape is very slow to cue multiple items in quick succession. A cart machine with six transports and three outputs falls over itself if you try to play more than six items in less than 20 seconds. Like in a headlines sequence, for example.
- Tape (particularly analogue) is very vulnerable to generation losses. Sound and picture quality often suffers.
- Tapes may have to be physically moved from a recording or editing point to the transmission area - this takes time.

Despite all this, people LIKE tapes. Stressed producers feel comfortable with something tangible, a little plastic box containing their work. They will have little or no idea how fragile and vulnerable that little reel of tape actually is. They like tapes because they can see them, they can pick them up, write on them and put them in their pocket!

People WORRY about server edits, at least in the early days, because many hours of work remains hidden in a mysterious box and may exist in a ‘virtual’ form only. They will have had bitter experience of computers destroying a script they’d been working on all day and the experts from the IT department unable to recover it. They are terrified that the server will do the same thing. The challenge for the broadcaster is to design a new work-flow that will produce his programme:

- Achieving the original objectives for the project.
- Utilizing all of the strengths of the server system.
- Isolating the weaknesses - by enforcing a sensible naming convention, for example.
- Maintain the confidence of the production staff during the early weeks and months.

The way to do this is not to replicate existing practices, but to look at the screen - the programme itself - and work backwards. If you need ten 3-second clips played back to back in a random order, then with a suitable server and automation system, in skilled hands, this may be possible - live.

It is, of course, a perfect opportunity to completely re-appraise your station’s output: to redesign the output with a brand-new 21st Century look and feel, making the most of the facilities offered by the new technology.

Whatever you decide, I’d offer the following advice at this stage:

1. Start small, if you can. Use part of the organisation as a pilot scheme. This is much easier than trying to manage a ‘big bang’ step change.
2. If at all possible, try to learn from others. Get some different perspectives by visiting stations with systems already in place. See where they’ve gone wrong and take advantage of any imaginative solutions to naming conventions or process flows.
3. In the early days, make it easy for yourself, loosen your deadlines - just a little. The positive effects on staff moral and the progress of the project will outweigh any negative impact on the quality of the news broadcast. In my experience, however, this is far easier said than done!
4. Be prepared to make some mistakes, even if they’re carefully concealed from the customers. Start with a system you believe to be workable; if it isn’t, then change it - but take everyone with you.

Training

Training will probably break down into four main areas:

- Newsroom staff (journalists) .
- Picture (VTR) Editors.
- Other operational staff (media managers, studio directors)
- Technical support (IT and engineering)

The Newsroom

The newsroom is likely to be the simplest, if only because the editing tools they are given have been specifically designed to be easy to use. The basic skills are normally acquired in an hour or two and after a few days' practice most of them will become quite accomplished. The more difficult task is keeping them on-side with the whole project. They've got to see the benefits to themselves to be ready to take on the new responsibilities. Once they're convinced that server technology puts them in the driving seat, independent of technical 'experts', and able to make the programme they want, the task becomes easy.

What they will need is some friendly support close at hand during the first few weeks. If they know that there's someone they trust, on hand to dig them out of any trouble at a moment's notice, confidence levels will rise dramatically. I found that some user-friendly operational notes left prominently in the newsroom computer system and a short-form information sheet for inserting under mouse mats also helped considerably.

Picture Editors

Much of the success of a news station depends on picture editors working rapidly and accurately and with total confidence in their own abilities and that of the equipment. If they've bought into the decision to buy the chosen editing system as a production tool, then most of the battle is won. If they believe that the editing product is right for the job, they'll want to use it and will almost train themselves.

At ITN we decided that a task-oriented programme was going to suit our staff the best. We wanted them to learn to solve typical ITN problems, in a realistic time-frame, using the Editbox. We accomplished this by having three or four experienced editors trained by Quantel, so that they understood the full range of capabilities of the machine, and then used them as a 'seed pool' to train their colleagues.

Support

Support probably divides into several areas:

- Operational support for craft editors.
- Operational support for newsroom issues - browse editing, automation, etc.
- Operational support for other staff - like media managers, studio directors.
- Engineering support for server, newsroom and automation products.

Newsroom

A super-user on hand all the time in the early days is a tremendous moral and confidence booster. This could be a respected figure, like the Project Manager, perhaps. Although it is very demanding of time and attention, it does allow them to see where the common areas of mistakes and confusion are and amend the training programme and support literature accordingly.

Operational Support

Media Managers, Studio Directors and any other operational staff will probably be offered training by the automation supplier. This may be supplemented by some on-site operational support in the first weeks after on-air. I found that by writing a book of 'recipe cards'; bullet-point lists detailing how to perform some set tasks, worked extremely well.

Server Managers

Any complex system involving a combination of newsroom computer, automation and video servers presents a new kind of support problem. Traditionally there has been IT support looking after the computers and engineering support looking after the machinery and the 'glue'. One of the paradoxes of this kind of installation is that along with the operational flexibility comes a certain amount of engineering indivisibility: much of the system is designed and built around an IT spine with some bespoke hardware to cope with the heavy-duty number crunching required by broadcast video data.

Another feature of the digital newsroom is that relatively few problems are because of hardware failures. Most are due to operational mistakes; configuration errors and software bugs - let's be honest. To deal with these, the role of Server Manager may be the answer; essentially super-users with a production-oriented mentality and wide technical knowledge who could walk in to any issue and devise an instant solution to any problem. These people cannot be turned out overnight, so appoint them as early as you can. If you find the right individuals, they can form an extremely powerful team and overcome any technical problem.

CONCLUSION

The process of change is far more concerned with the migration of ideas, conceptions and working practices than it is with the installation of machinery and software. Motivation for change has to come from the top - everyone in the organisation needs to know that the boss is fully signed up and that they all will have to play their part.

A strength of the ITN programme was staff participation. Wherever possible, strategic decisions were taken at a collective level. At other times issues were debated in a special forum, referred to as the New Technology group, whose members were drawn from all departments in the company. My job was essentially an interface between that committee, the rest of ITN and the manufacturers. I think it was helpful for all parties concerned that one person, with deep roots in the production process, was able to mediate between them all.

Disaster recovery

Any broadcaster has to have a strategy that will keep them on air whatever happens. Layers of redundancy will be built into the server and automation system to help with this. Retaining some tape editing throughout the changeover process provides a ‘comfort zone’ which can be a morale booster and will also provide an emergency resource should things go badly wrong.

It has to be recognized that a system may develop faults for a variety of reasons and it’s essential for operational and support staff to know what to do. Regular rehearsals, like fire drills, should be part of the production routine. ‘Recipe cards’, detailing the steps to be taken in the event of various breakdown scenarios can be left in strategic areas and used to guide the practice sessions.

Finally

This brief document has been able only to introduce some of the fundamental issues to be discussed when considering a server-based news production system. Many of the subjects, like archiving, could be the subject of week-long conference of their own. Much of the detail is up to the individual broadcaster; there are no right or wrong answers, but do try to get the fundamentals straight:

Be sure you want to convert to digital production. What are you trying to achieve?

Select a system that will meet your present and foreseeable future requirements.

Set yourselves realistic objectives and implementation dates.

Once you’ve started, hold your nerve. The conversion process won’t always be easy, but if you’ve correctly identified the answers to these three questions, you should be successful.