different risk profile and life cycle depending on the temperature of the storage container. Preservation actions may be needed on an object that is fragile if it is going to be exhibited or handled by researchers. The point of this is that the risk assessment and preservation action depend on other factors beyond the object alone.

The same is true in the digital world. Preservation and access planning for electronic records take place in the context of the larger systems and infrastructure which include the electronic storage environment and the public access system. These systems will have an impact on the decisions about risks and actions to take and will also have to be actively maintained. In addition, feedback from the public will be useful in determining which formats are no longer accessible in the most commonly used platforms.

There are many technological changes that must be monitored frequently in the risk assessment programme for electronic records. Some of the risks include that a format may no longer be accessible to the public; generational changes may cause older files to be inaccessible in the current version and formats may no longer be supported through business changes. So the questions that need to be asked regularly include whether to take action, what the urgency level is, and what the appropriate format is for the transformation.

Reformatting or transformation

In traditional preservation of archival materials, preservation reformatting is a standard action. In the past 50 years, this was often done by microfilming, retiring the original physical records to appropriate storage and making copies widely available. Other physical formats, such as magnetic media and film-based audio and visual recordings were recopied onto more stable forms of magnetic media or film for preservation and access.

For those digital objects requiring immediate reformatting to avoid loss, the pathway is less straightforward. For this action to be taken on archival records, a programme must be developed that ensures that the transformed record withstands the test of public trust. For this we will need to develop teams that include archivists to determine the essential characteristics, and information technology specialists to examine and document the characteristics in the new or target format.

If the digital object needs to be transformed in order to be preserved and remain accessible, this triggers an examination of alternatives that will preserve the characteristics needed to retain authenticity and meet the requirements of available resources. More than one tool may be required to reformat all aspects of the digital object including the metadata or context and linkages to related digital objects. We would need to verify the effectiveness of the transformation to maintain the essential characteristics. Archival and information technology validation would be needed.