

HISTORICAL NOTE 1 WORK SAMPLING

The technique of work sampling was introduced by L. H. C. Tippett, a statistician who was studying textile factories in England in 1927. Tippett was doing surveys of loom operations, attempting to ascertain the durations of and reasons for stoppages (downtime). At the beginning of his studies, he used a stopwatch to measure the times, but the practical limits of this method only allowed him to observe up to four looms at a time. He felt he should include a much larger number of looms in his survey in order to obtain reliable statistics about the problem. One day a weaving manager mentioned to Tippett that he could tell at a glance whether a loom was working or not, simply by the actions of the weaver who was tending the loom. If the worker was bending over his loom making repairs, the loom was down. If the worker was just watching the loom, it was running. The light immediately clicked on in Tippett's mind. He realized that a snapshot of a given loom could be taken and its status (working or not working) could be classified in that instant. If not working, the cause of the stoppage could be determined. All of the looms in the factory could be surveyed in one tour through the building. Over a period of time, multiple tours would permit multiple samples to be gathered on the looms. On reflection, he concluded that the proportion of looms observed running during a given period of time was equal to the proportion of time that they ran. Similarly, the downtime proportion was equal to the proportion of looms stopped during the same period. Because of the way the data-gathering technique worked, taking "snapshots" throughout the work area, Tippett called it the "snap reading method."

The snap reading method was introduced into the United States in 1941 by R. L. Morrow, a professor at New York University, who changed the name of the technique to "ratio delay study," because he saw its primary application to be in the sampling of delays during production. The name "work sampling" was later coined by C. L. Brisley and H. L. Waddell in an article that appeared in *Factory Management and Maintenance* magazine in 1952.