Ref: Chapter 4 of [EK] text.

Note: We present the methodology for tracking the formation of new links under **triadic closure**. This methodology was used in the 2006 study by Kossinets and Watts (reference [259] in the text).

**Steps of the Methodology:**

1. Consider two snapshots $N_1$ and $N_2$ of a social network at times $t_1$ and $t_2$ respectively, where $t_1 < t_2$.

2. For each value of $k$, let $S_k$ denote the set of pairs of nodes $\{x, y\}$ such that $x$ and $y$ have exactly $k$ common neighbors in $N_1$, but the edge (link) $\{x, y\}$ is not in $N_1$. (For some $k$, if $S_k$ is empty, ignore set $S_k$.)

3. For each set $S_k$ found in Step 2, let $Q_k$ denote the subset of $S_k$ such that for each pair $\{x, y\}$ in $Q_k$, the edge (link) $\{x, y\}$ is in $N_2$. For each value of $k$, compute the ratio $T(k) = |Q_k|/|S_k|$.

   **Note:** $T(k)$ is an empirical estimate of the probability that a link will form between two people who have exactly $k$ common friends.

4. Plot $T(k)$ against $k$. (We expect $T(k)$ to increase with $k$.)

   **Note:** $T(0)$ represents the probability of link formation when two people have no common friend. So, a comparison of the value of $T(0)$ with other values addresses the basic questions about triadic closure.