Markov Kakutani fixed point theorem

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Theorem [Markov - Kakutani] **-** Let X be a topological vector space and $\mathcal{T}$ a commuting family of continuous linear operators in X. Suppose K is a compact convex subset of X such that

$$T(K) \subseteq K$$

for every $T \in \mathcal{T}$. Then there is a point $x_0 \in K$ such that $Tx_0 = x_0$ for all $T \in \mathcal{T}$.