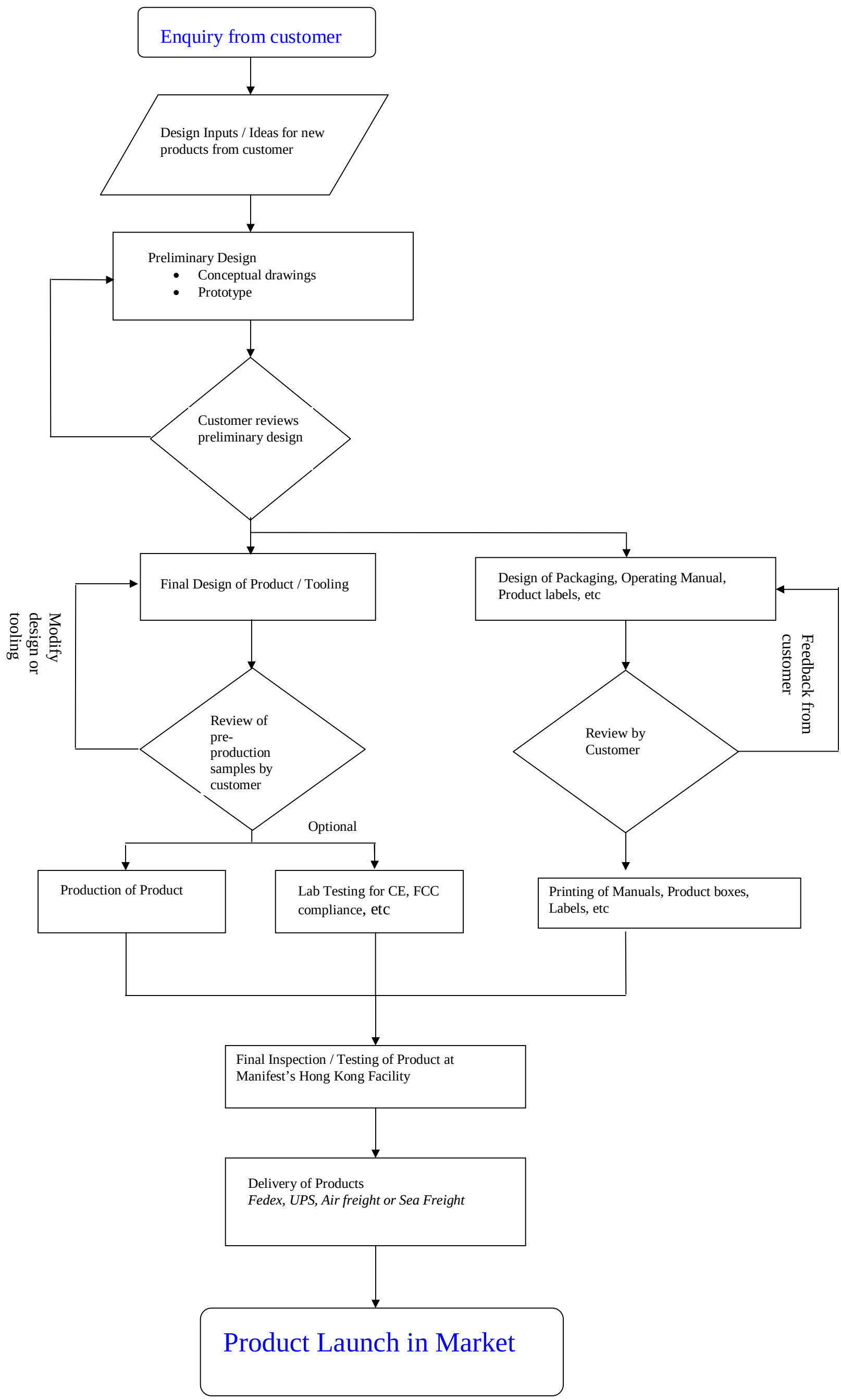MANIFEST MANUFACTURING