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摘要(中)	<p>為了在現今的區域市場上競爭，製造商必須應用品質管制的技術來監督產品的製造過程。傳統上，統計製程管制（SPC）的方法是最被廣泛運用在監督製造過程的工具。而在眾多 SPC 的方法中由於統計管制圖表的易於使用，且能夠在短時間偵測出不良品，其已顯然成為最重要的技術之一。但是管制圖在使用上亦有其限制：它並不適合應用在連續性或批次性的製造作業上，因為在這些作業上所獲得的資料將會破壞其基本的獨立性假設。為改進傳統管制圖上的缺點，本研究乃應用了類神經網路方法，用來偵測 AR(1)與 IMA(1,1)兩種相關性製程的產品不良率。而本研究架構包含了兩個重要的研究領域：品質管制與類神經網路。根據研</p>

	<p>究結果顯示類神經網路可被廣泛地應用在相關性生產過程的監督工作，且可在相關性製程發生平移量的變動時提供有效的辨識能力。</p>
摘要 (英)	<p>To compete in today's global market, manufacturers have tried to apply the quality control techniques to supervise the manufacturing processes. Traditionally, Statistical Process Control (SPC) techniques are widely used in monitoring manufacturing process. Among many SPC tools, control charts are important in SPC because they are simple to use and will detect shift in a short time. Although SPC techniques are successful, they developed for discrete manufacturing operations and are often not applicable in continuous and batch process industries because the manufacturing process data violate a basic statistical assumption— independence. To improve this weakness, we apply the neural network technique in correlated manufacturing process including AR(1) process and IMA(1,1) process. This study bridges two important research areas: quality control and neural network. The results show that it could greatly extend the application of neural network in manufacturing process control and provide an efficient identification method for the occurrence of shifts in correlated manufacturing process.</p>
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