Automation in the baking industry: how might it work?

Business, Manufacturing

Stephen R. Rosenthal, a professor of operations management at Boston University states, " We need to get a product introduced that will satisfy the customer. We need quality with speed." Rosenthal claims that American manufacturers are " just not swift enough" (Manji, 1) compared to Japan and are trying to frequently satisfy the changing needs of their new customers. However, within the last decade, technology has rapidly increased and changed. Many Americans predict that jobs will be lost due to machines and robots taking over our jobs. One of the professions that is predicted to become automated within the next few decades are the pastry chefs and bakers. In the baking industry, most pastry chefs are afraid newer, highly intelligent machines will become more efficient than humans in no time. Robots will cause a loss of jobs in the baking industry because of their consistent decoration application, production rate, and perfect attendance.

Several types of baked goods made by the human hand can result in inconsistencies. Not only can the volume of cream or decor on a treat result in more expenses if used unevenly, but it is believed in the " world of baking" that every customer desires a wonderful experience, and an equal, sensational product just like the next person in line. According to Graybill Machines Company (Applying Automation to Baked Goods Production, 1), several machines have been introduced to the world of pastry to prevent these inconsistencies. One is called the " Pattern topping applicator" and is used to measure an equal amount of topping from product to product, so inventory is easier to keep up with and an accurate cost per treat is more possible. The machine has a 100% perfect production rate as well, resulting in the trust of many companies. Before the effects of this machine, chefs

could not always keep up with the production pace and that only increased differences between products (Applying Automation to Baked Goods Production, 1). Now, customers will be equally satisfied with a delicious product, that possesses higher quality than being labored by the hands of humans.

" Graybill's Machines…analyzed the desired production goals and operational outcomes…of making a new pie machine that integrated process efficiencies and flexibility throughout all stages…and met written production goals and pie specifications" (Applying Automation to Baked Goods Production, 1). Unfortunately, humans cannot always produce a perfect product at lightning speed, and when people are hungry or desperate, they do not want to wait. They start to complain, or worse, even leave and go somewhere else. This is not good for business. Also, this causes additional stress for staff, which can be helped through machines. Intelligent machines that are currently being installed around the globe are said to have two lanes of fast production, and can produce up to 1, 000 small items per minute, and 250 large items (such as pies and cakes) per minute (Applying Automation to Baked Goods Production, 2). That is 60, 000 small items per hour and 15, 000 large items per hour! In addition, the machines have interchangeable styles and shapes that can be easily replaced, washed, sanitized, and reapplied to the machine. In addition, the machines recycle their own dough leftovers (Applying Automation to Baked Goods Production, 2). Experts also say that these machines are relatively simple to build, and do not cost millions of dollars,

only thousands. These robots are able to produce everyone's favorite treats by the truckload instead of by the handful.

In the food industry, sickness and food borne illnesses are feared and strictly trying to be prevented on the daily. No business wants a consumer to become ill from one of their foods, and when this happens it's awful for the business. Fortunately, robots and machines cannot catch or carry sickness. A machine is always ready to work. " They're more reliable and they don't fall out sick" (Culliney, 1). Customers will not fear coming down with salmonella or any other food borne illness from undercooked goods, possibly containing eggs, due to machine consistencies and cleanliness (Furstinger, 15), and chefs who are slightly ill, or are not aware they are ill, will not fret about spreading the sickness around the kitchen, because robots will handle their work. Since machines are predicted to fix other machines, ".. they are turning manufacturing into systems...connecting to other departments of the company, tying it all together" (Jasany, 1), human injury also will vanish from the industry (Applying Automation to Baked Goods Production, 2). Bosses will not stress about people constantly cutting themselves doing simple tasks. No man will have to complain about his broken wrist or missing finger, and either lose his job or have to stay home for a long period of time. Likewise, food business is supposed to be quick and fast. The faster one is, the more goods and money they produce. Injuring oneself can take away from that. Since machines are performing all the dirty work, humans are predicted to be less stressed, and customers more satisfied on a daily basis.

Automation in the baking industry has and will escalate, improving customer service, preventing injuries, and satisfying owners. " Combining quality with speed," as Dr. Rosenthal stated, will advance quickly in the food industry, forcing the majority of bakers out of the ballpark. Although this may be looked upon as unfortunate for some, automation is rapidly increasing whether humans desire it to or not. Robots and machines will amaze humans in the baking industry for many decades to come.