



How we Built a 3D Printing Business

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by Carolyn Edlund

Two creative entrepreneurs, Sherri and Yolanda Johnson-Hayes, developed a niche market and scaled their 3D printing studio business.



Yolanda Johnson-Hayes working her booth at a model train show.

Sherri and Yolanda Johnson-Hayes run [CatzPaw Innovations LLC](#), a small business that designs and produces a variety of 3D printed miniatures made to scale. Initially intrigued with the process back in the early 2000's when printers were new and prices extremely high, the couple waited until desktop 3D printers were available and affordable before making a purchase. Their printer languished somewhat as a novelty until they found a way to put it to practical use.

At the time, they operated a portable slot car track, setting up at car shows and renting it for birthday parties, fundraisers and other occasions. They wanted to add landscaping and scenery details around the track to make it more exciting and realistic looking, but were unable to find what they needed at scale. The solution? They found they could create these items for their track layout using CAD (computer aided design) software and their 3D printer.

Realizing they could leverage their designs, they decided to print multiples and a stint as eBay sellers followed. Surprisingly, the eBay buyers regularly engaged in bidding wars. They recognized a need in the marketplace, and had the means to design and produce what customers wanted.

We recently spoke about this journey and how they developed multiple streams of income and repeat customers.

AS: What triggered your entry into the larger marketplace?

SJ: We were contacted by the local chapter of the National Association of Model Railroaders. They asked us to be a vendor at their annual model train show. Actually, they were begging us to be a vendor!

During that first show a gentleman walked past our table several times, looking for specific items in HO-Scale. He could not find them anywhere. We were only selling S-Scale at the time. Yolanda, our sales maven, told him without hesitation that of course we could make whatever he wanted.

We have Mr. Jimmy Bradley to thank for expanding our products into HO-Scale. He gave us the confidence and the first big orders to get our business truly off the ground. When we started his project, we were to make around 50 items. By the end of the project, we had created over 450 pieces. You can find CatzPaw's figures, animals, tombstones, and variety of other pieces on permanent display as part of the Historic Diorama located at the Welcome Center in Cuthbert, Georgia.



3D printed elements on display in the Cuthbert, GA Historical Diorama

AS: How did you develop niche markets?

Initially, we thought our audience was folks who build slot car layouts, since this was our start in printing scale items. However, our target market turned to the model railroad community. Then the farm toy community joined in.

Our niche market is actually a combination of smaller niche markets, all of which are in search of scale model replicas of real-life objects. Our products can be found on model railroad layouts, farm toy displays, slot car tracks, die-cast displays, historic dioramas, stand-alone displays, figures memorializing a person, wedding displays, and cake toppers.

In addition to scale replicas of items, we also design and 3D print replacement parts for pieces no longer available from the manufacturer. Most of these are created for model train repair shops and the farm toy stores.

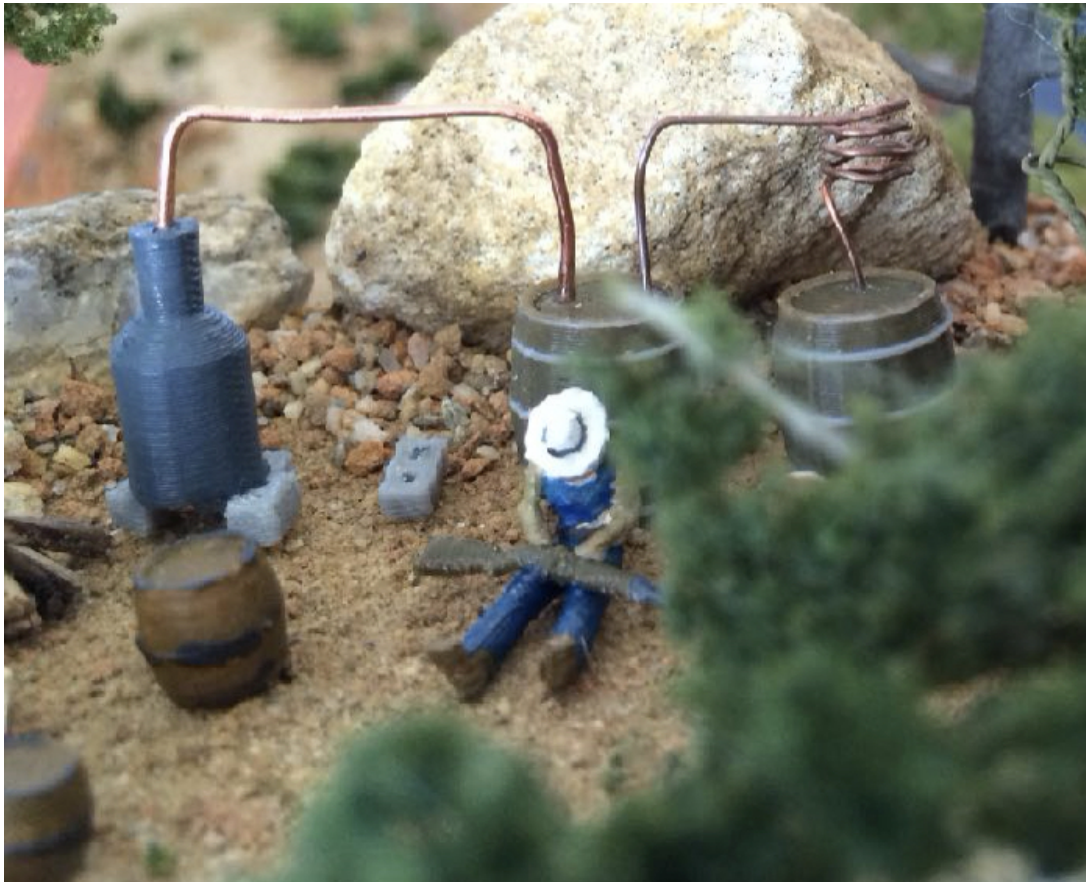


CatzPaw serves several markets, including the farm toy niche.

AS: What is your process for launching and promoting new lines?

We're always adding new items to our product catalog to keep our business fresh and growing. We send out new product announcements to magazines in our target markets. We also send regular email campaigns to customers on our subscriber list.

At first, we paid for advertising in multiple magazines per market. After tracking the numbers and finding where customers were coming, we cut back to advertising in just one magazine. There was no need to spend those dollars when most magazines print new product announcements free of charge. Reviews have also appeared in magazines, from both editors who were gifted our products and customers who submitted them.



Still scene layout of 3D items

We joined organizations that support the model train community: National Association of Model Railroaders (NMRA) and the National Association of S Gaugers (NASG). Both have websites that list our products and both sponsor train shows that we attend. Most model train shows offer door prizes, so we provide items to be given away. The NMRA Piedmont Division raffles off a complete model train layout each year which we provide items to complement the layout. We also give 3D printing clinics and presentations.

The NMRA Partnership Program provides member discounts on purchases from participating vendors, and we participate. We provide the same discount for members of the NASG as well as first responders and those who have served in the military.

We've partnered with other creators to provide complementary models for their products and cross-promote to various markets. For example, SZenery Scale Models specializes in the design and production of scale motorcycles, but has no interest in creating figures for them. This is where we come in; we create the motorcycle riders for the bikes.

Our pages on Facebook and Twitter and our YouTube channel announce new products, share ideas and receive feedback. We've joined Facebook groups relevant to our target markets and respond people looking for items to add to their layouts and dioramas.



Custom 3D printed figures and buildings in a Christmas layout

AS: How are you selling your products?

The majority of our sales are directly to customers through our online store. However, we also take orders over the phone and via mail. On request, we will provide printed catalogs and order forms.

We have several resellers in the model train and farm toy markets. Another reseller holds exclusive rights to sell our products on eBay. We found that keeping up with eBay listings and a separate online store was just too much. Most customers want to buy direct from our website versus going through the eBay process.

We also set up and sell products at local model train shows. Typically, there are three to four shows a year in the Atlanta area, but with COVID there have been no shows during the past year and a half.

In addition, we have some models listed on Shapeways, a 3D printing service and curator. Customers can go to our Shapeways shop and select models to have printed and shipped to them directly. Once a month we receive a sales commission check.



Aliens and other supernatural beings are bestsellers for CatzPaw

AS: Do you do any commission work?

Yes. Our first big project was a commission for the Cuthbert Historical Diorama created by Mr. Jimmy Bradley. It started out small and ended large. We created hundreds of Civil Era figures, carriages, and scenery details.

We've created several cryptids (Mothman, Chupacabra, Big Foot, Abominable Snowman, Classic Alien, Creepy Alien). These were fun projects with a lot of room for creativity. We also produced figures to be used with the Polar Lights Jupiter 2 spaceship.

In addition to commissioned figures, we have also designed and 3D printed a 1950's bus, a Russell Winged Snow Plow, and turn-of-the-century buildings. Our latest project included figures and scenery details that will go on display in an Arizona Museum. Most commissioned items are added to our product catalog and can be purchased by others in addition to the initial customer.



Vintage bus scale model made as a commission

AS: What is the most fulfilling thing about your business?

One of the things we pride ourselves on is the ability to provide budget-friendly items so everyone can enjoy our products. By keeping the design and 3D printing in-house we can control our costs and prices. Thus, when a young Boy Scout comes to our table at a show, he can afford an item for himself and his best friend. And the senior citizen living on a fixed income can still take home something special.

But the most fulfilling aspect of our business that yields the greatest pleasure is seeing how our products are used by our patrons. We love seeing the looks on their faces when they find that special piece they've been searching for, sometimes for years, or when they see an item that will make a scene pop. We also love getting pictures and seeing how our customers use our products on their layouts. It is amazing what they do!