Chris has told us how use an arbitrary parameter as bifurcation parameter in DDEbiftool (rather than using delay as bifurcation parameter):

Recall in sys_rhs.m there is an implied list of parameters using the par vector. If you have e.g. two parameters (call them alpha and tau; the latter is the time delay), par will be a vector par = (alpha, tau). In sys_tau.m, you will have to have the line

tau = [2];  % NOT [1], because par(1) corresponds to alpha! par(2) corresponds to tau.

This shows DDE-BIFTOOL that the second parameter in the par vector is the time delay.

But where do you then tell BIFTOOL to continue in alpha? That happens at runtime. The continuation routine is initialized in a script file; "scripted.m" was my naming convention for the file. In that file, one identifies the continuation parameter's position within the vector par. Starting from the top, you initialize your steady state variable:

[code]

stst.kind = 'stst';
stst.parameter = [alpha0; tau0]; % alpha0, tau0 are numbers that you're giving as the initial value of these params

[... skip lines and lines of your initializing ...]

branch1 = df_brnch(1, 'stst')   % THIS IS THE IMPORTANT LINE where you set your continuation parameter!

[end code]

Notice that command --- df_brnch(1,'stst') says "set up a branch, set parameter 1 (alpha for us) as the continuation parameter, start it with point stst." This is where you identify that you want to continue in alpha.

You can use branch1.parameter, etc. to set all future relevant details for the continuation subroutine.

THANKS, CHRIS!!